

# **Bridgeton Landfill, LLC**

## **Weekly Data Submittals**

**Week of October 19-25, 2014**

**Required by Section 52.F of Agreed Order, Case No. 13SL-CC01088  
Effective May 13, 2013**

### **Contents:**

**Attachment A – Leachate Levels in Leachate Collection Sumps**

**Attachment B – Temperature Monitoring Probe Analytical Charts**

**Attachment C – Gas Interceptor Wellhead Temperature Graphs**

**Attachment D – Neck-Area Gas Extraction Wellhead Temperature Graphs**

### **Provided Separately:**

- Leachate Level in Leachate Collection Sump Raw Data Excel Spreadsheet**
- Temperature Monitoring Probe Raw Data Excel Spreadsheet**
- Gas Interceptor Well Reading Raw Data Excel Spreadsheet**
- Neck-Area Gas Extraction Well Reading Raw Data Excel Spreadsheet**

**October 31, 2014**

## **Commentary on Data**

### **Attachment A – Leachate Levels in Leachate Collection Sumps**

All graphs have been updated to reflect current and 13-month historic period of data. LCS-3C was removed from graphing as it was replaced by LCS-3D previously.

LCS-1D, -5A, and -6B were partially or fully operational during the weekly reporting period.

The pump in LCS-2D was off during the weekly monitoring event due to an “over current” error. Vendors are being solicited to provide pump repairs.

The transducer melted in LCS-3D in March 2014 and is currently non-operational. Due to high temperatures currently being encountered, no replacement is planned.

LCS-4B still exhibits excess pressure and liquid ejection, so it has not been fitted with a pump; however, the conditions are resulting in leachate removal from that location. Options for pumping from this location are currently under review.

### **Attachment B - Temperature Monitoring Probe Analytical Charts**

The following TMPs indicated generally consistent profiles to previous observations: TMP-1, -2, -3, -4, -5, -6, -8, -9, -10, -11, -12, -14, -16, -17, and -18. However, it should be noted that the 80-foot interval of TMP-2, the 90-foot interval for TMP-9, the 15- and 35-foot intervals for TMP-11, and the 40-foot interval for TMP-14 increased slightly in the latest reading. Although previously determined to be unreadable, data was able to be collected from the 150- and 190-foot intervals on TMP-3. Although this data meets initial validity criteria regarding resistivity of the thermocouple wires, it should be noted that this data is still under evaluation, and will be qualified against the next several weeks of readings.

TMP-7, -7R, -13, and -15 have been removed from the presentation based on unreliable thermocouple measurements or other documented issues.

### **Attachment C - Gas Interceptor Wellhead Temperature Graphs**

There are currently water circulation cooling loops installed in the Gas Interceptor Wells (GIW)-2 through GIW-7, and GIW-10. Gas temperatures have dropped dramatically in these wells. However, gas data was not collected during the week from GIW-3 due to operational access.

For the remaining four wells without a cooling system installed (GIW-1, -8, -9, -12, and -13), temperatures were trending steady to slightly higher from the beginning to the end of the week. Temperatures in GIW-8 increased over the past week, by 30 degrees (from a low of 52 to a high of 82 degrees F), when the pump was repaired, liquid levels lowered, with a resulting increase in gas flow.

### **Attachment D – Neck Area Gas Extraction Well Data**

Per request of MDNR, weekly gas temperature data is being submitted for the following neck-area gas extraction wells (GEW)s: GEW-08, -09, -10, -38, -39, -40, -41R, -43R, -53, -54, -55, -56R, -109.

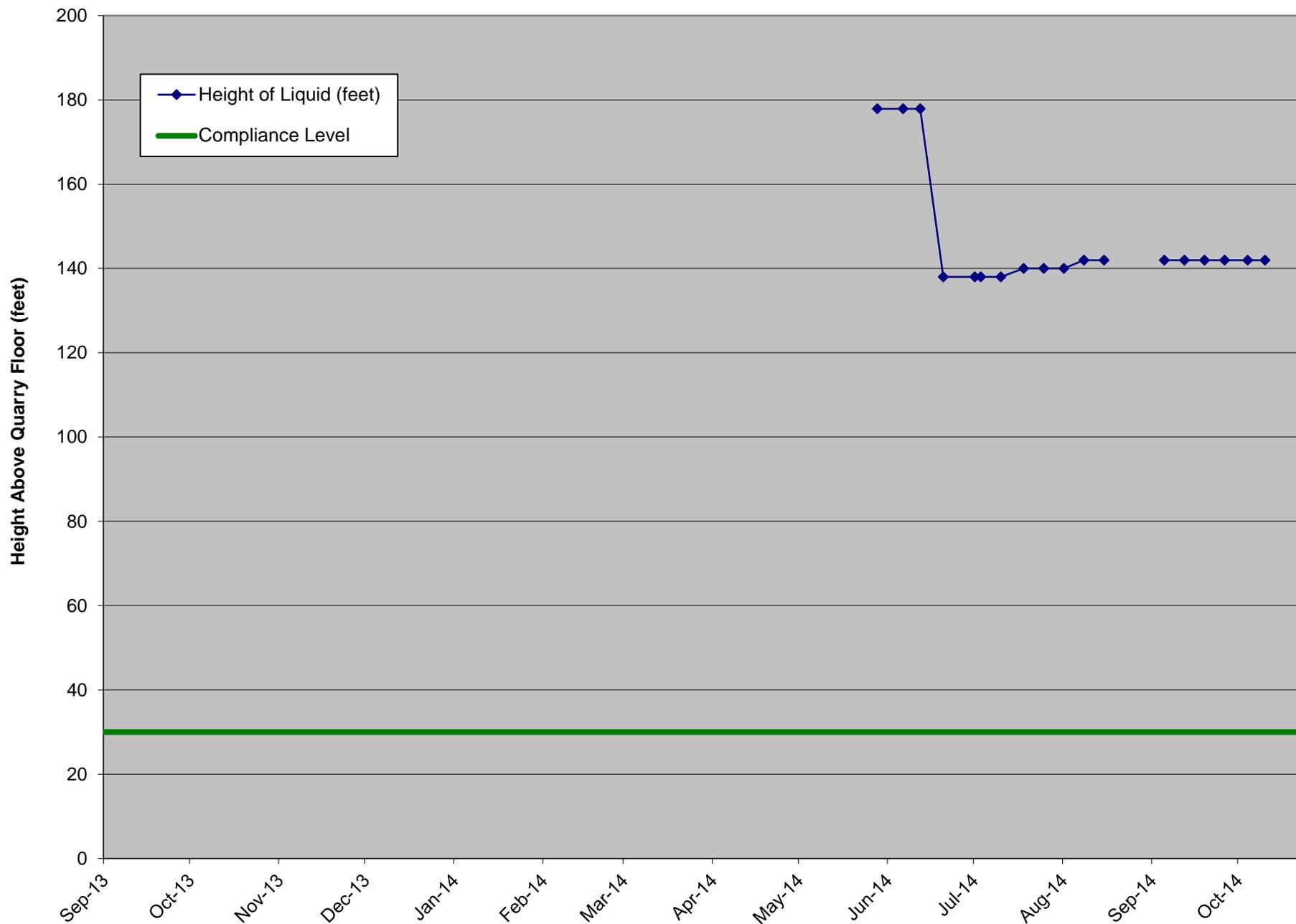
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**ATTACHMENT A**

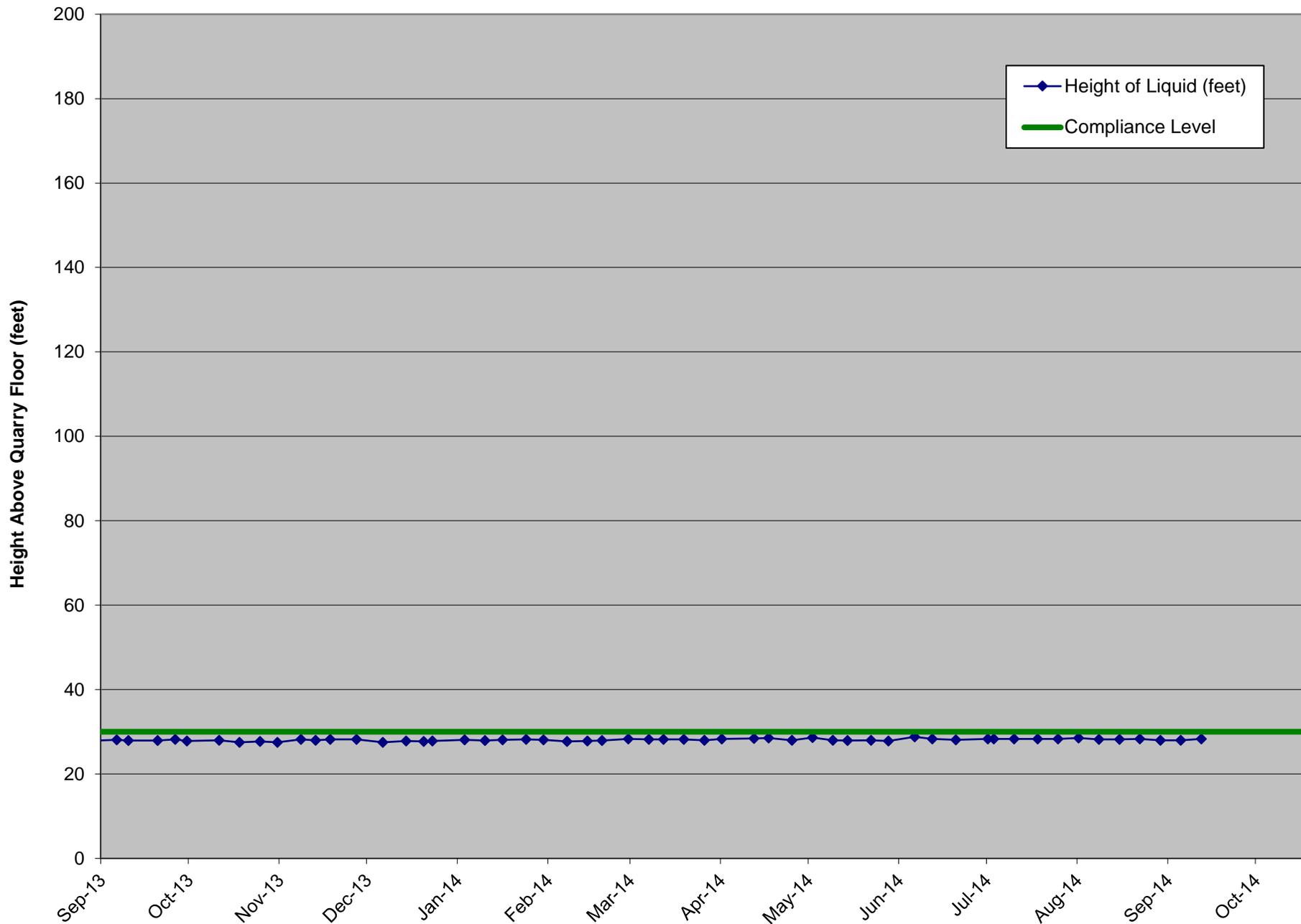
**LEACHATE LEVELS IN LEACHATE COLLECTION SUMPS**

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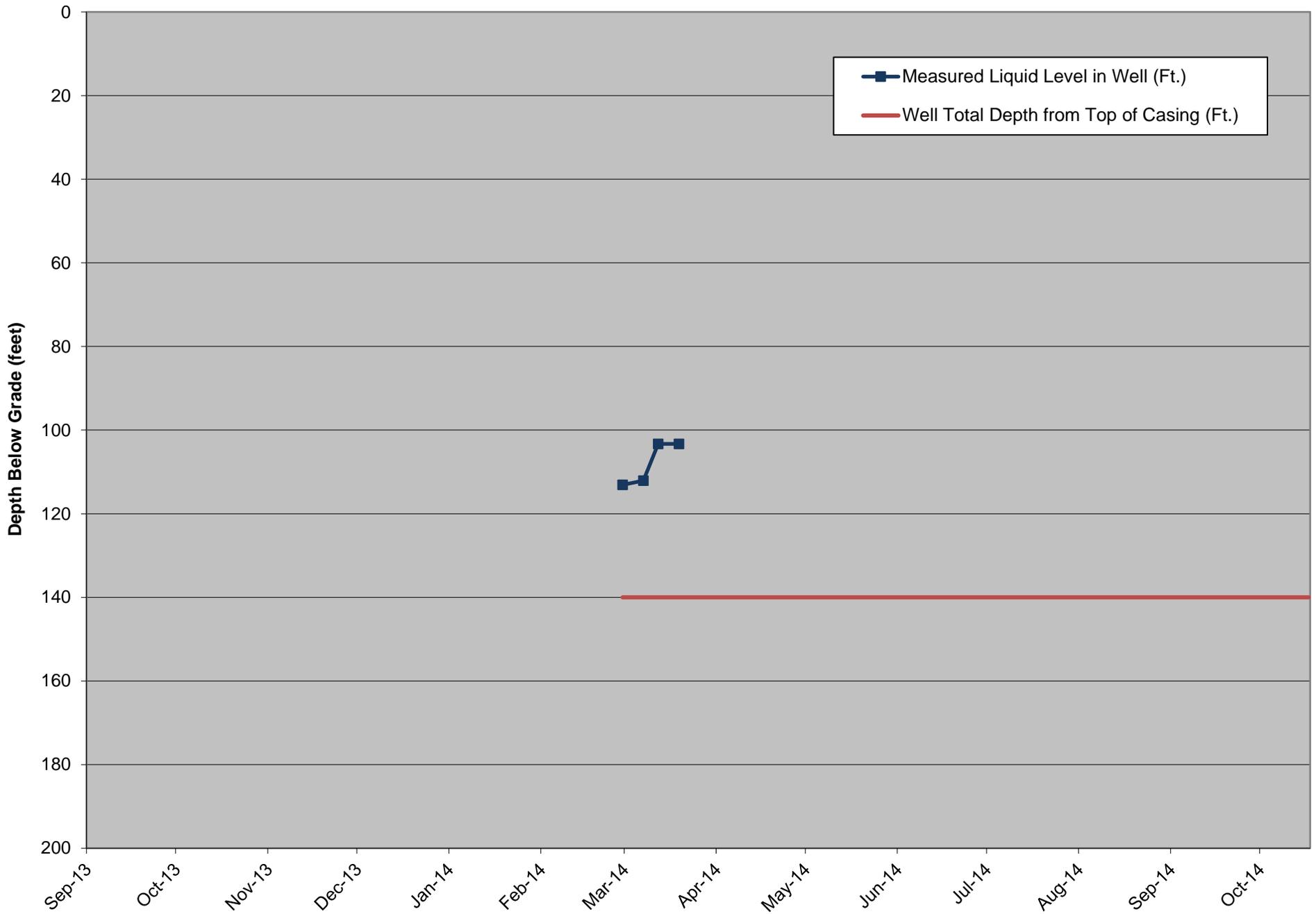
# LCS-1D Liquid Level Above Quarry Floor



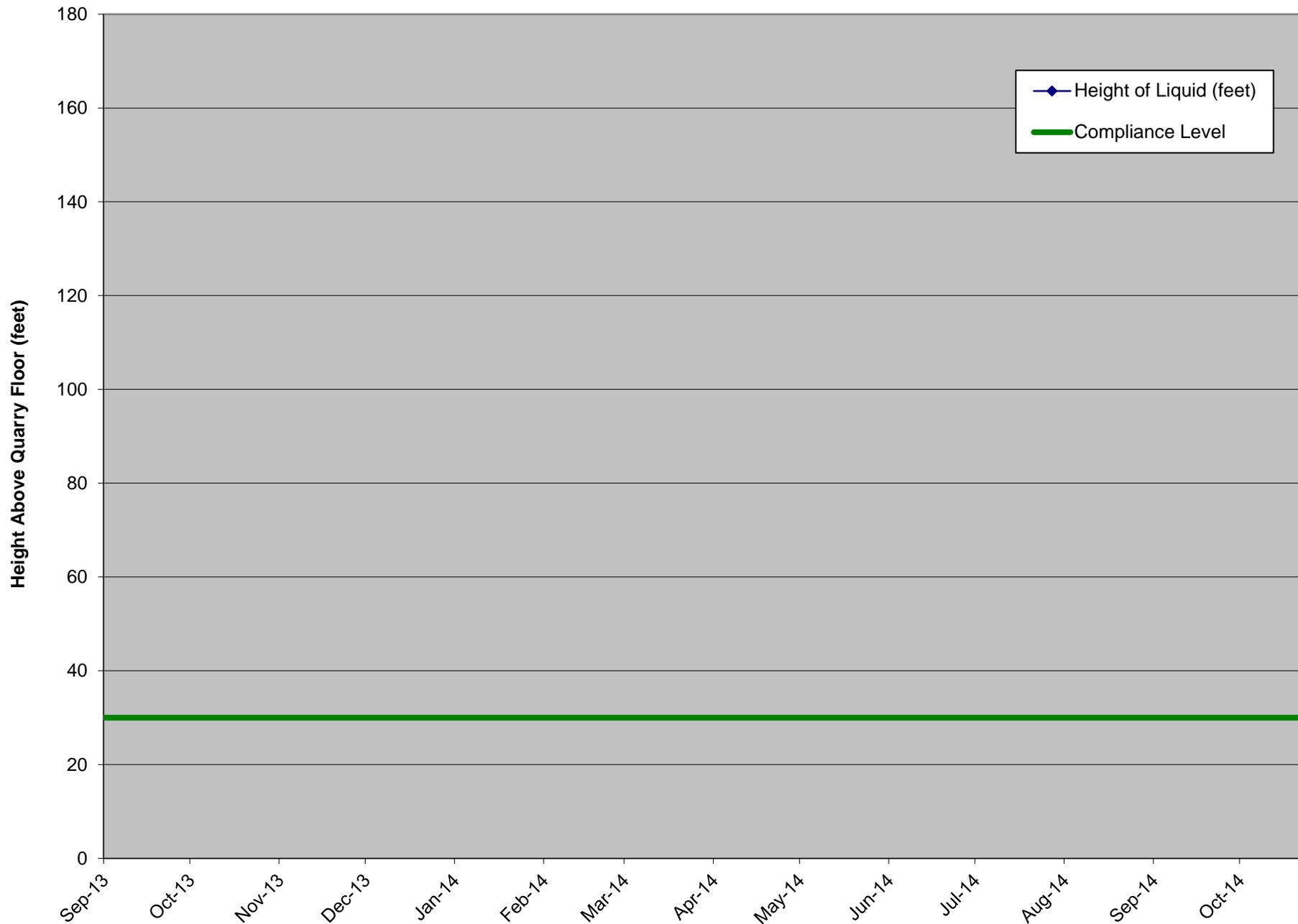
### LCS-2D Liquid Level Above Quarry Floor



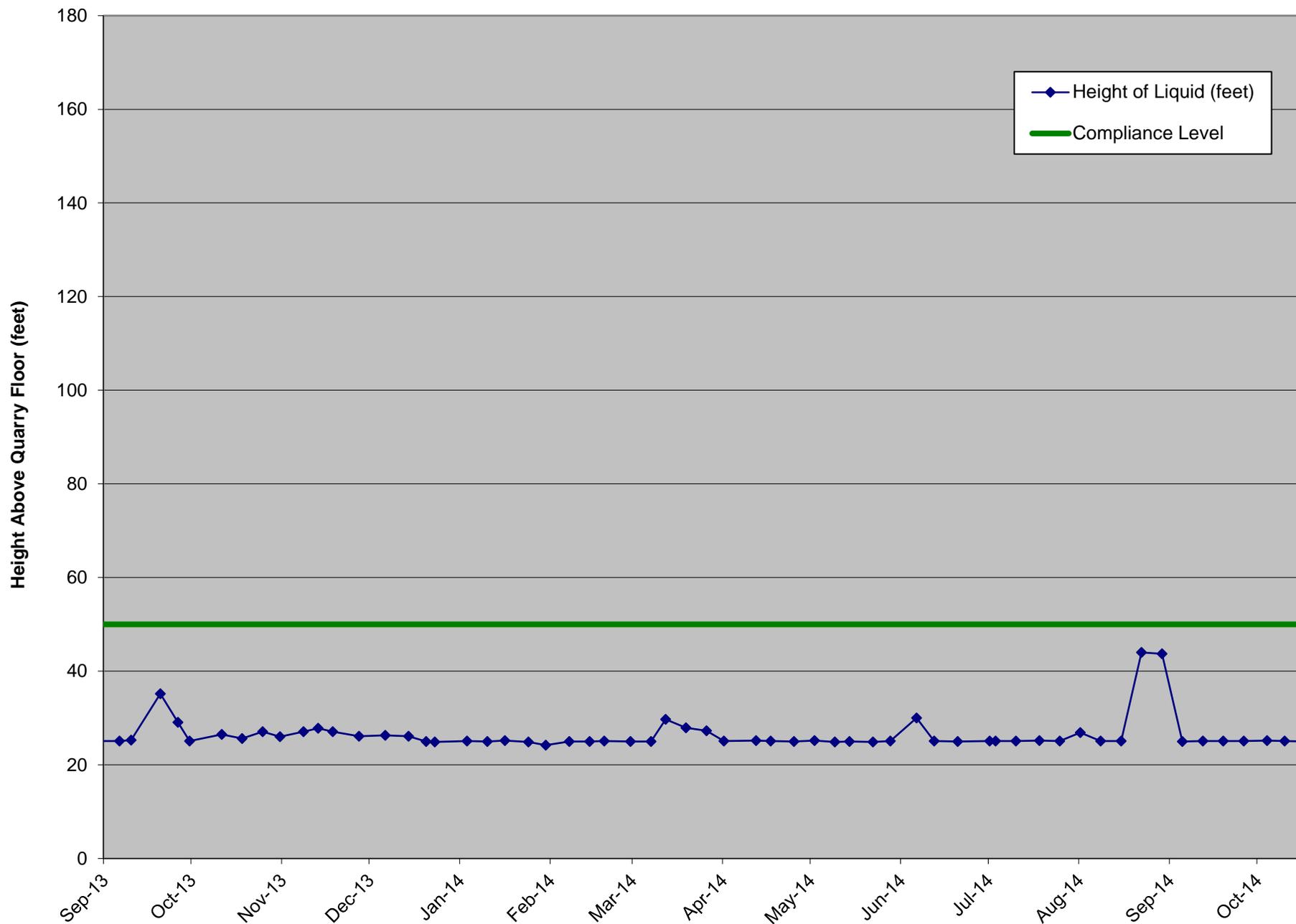
### LCS-3D Liquid Level Below Ground Surface



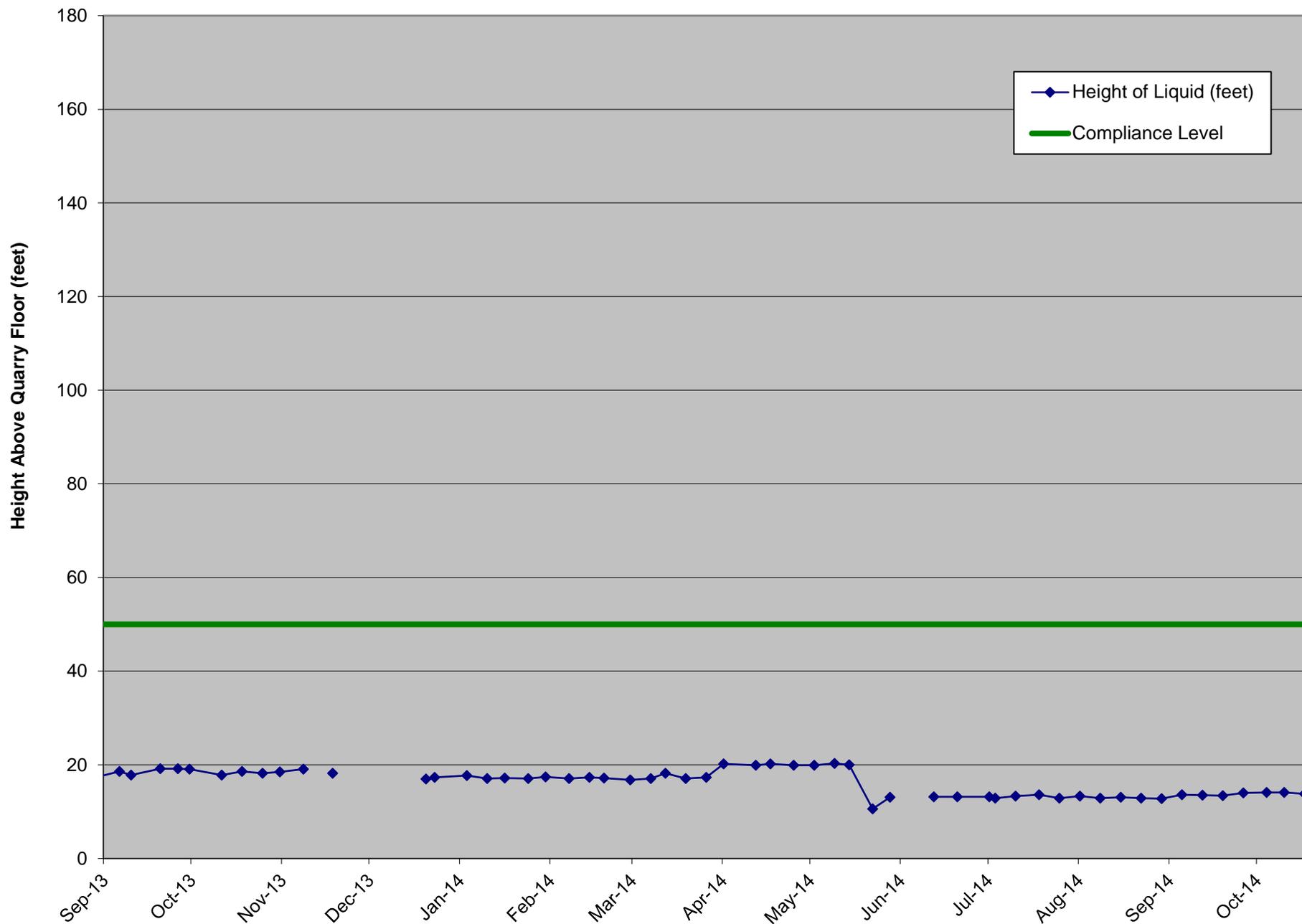
# LCS-4B Liquid Level Above Quarry Floor



### LCS-5A Liquid Level Above Quarry Floor



# LCS-6B Liquid Level Above Quarry Floor



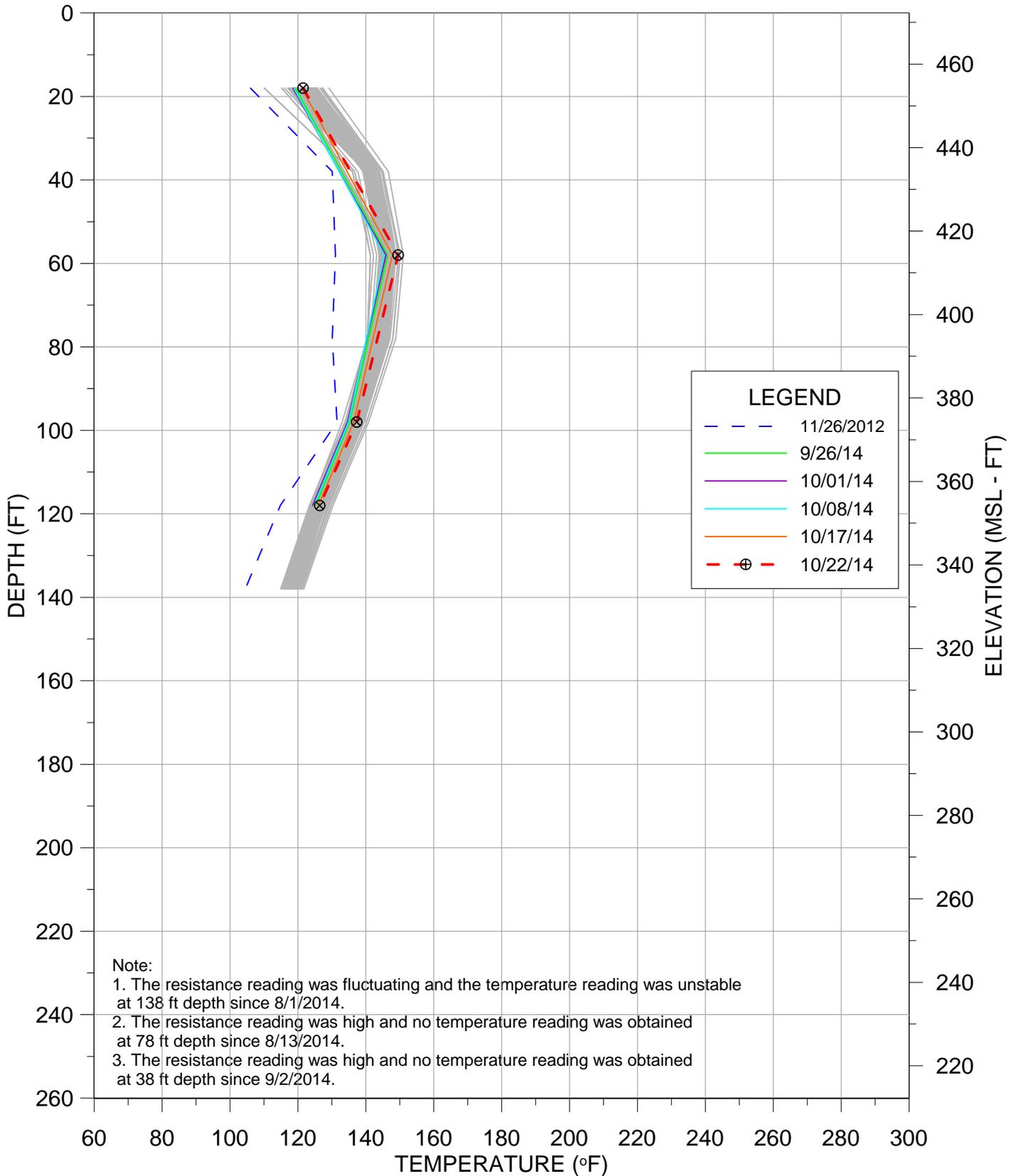
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**ATTACHMENT B**

**TEMPERATURE MONITORING PROBE ANALYTICAL CHARTS**

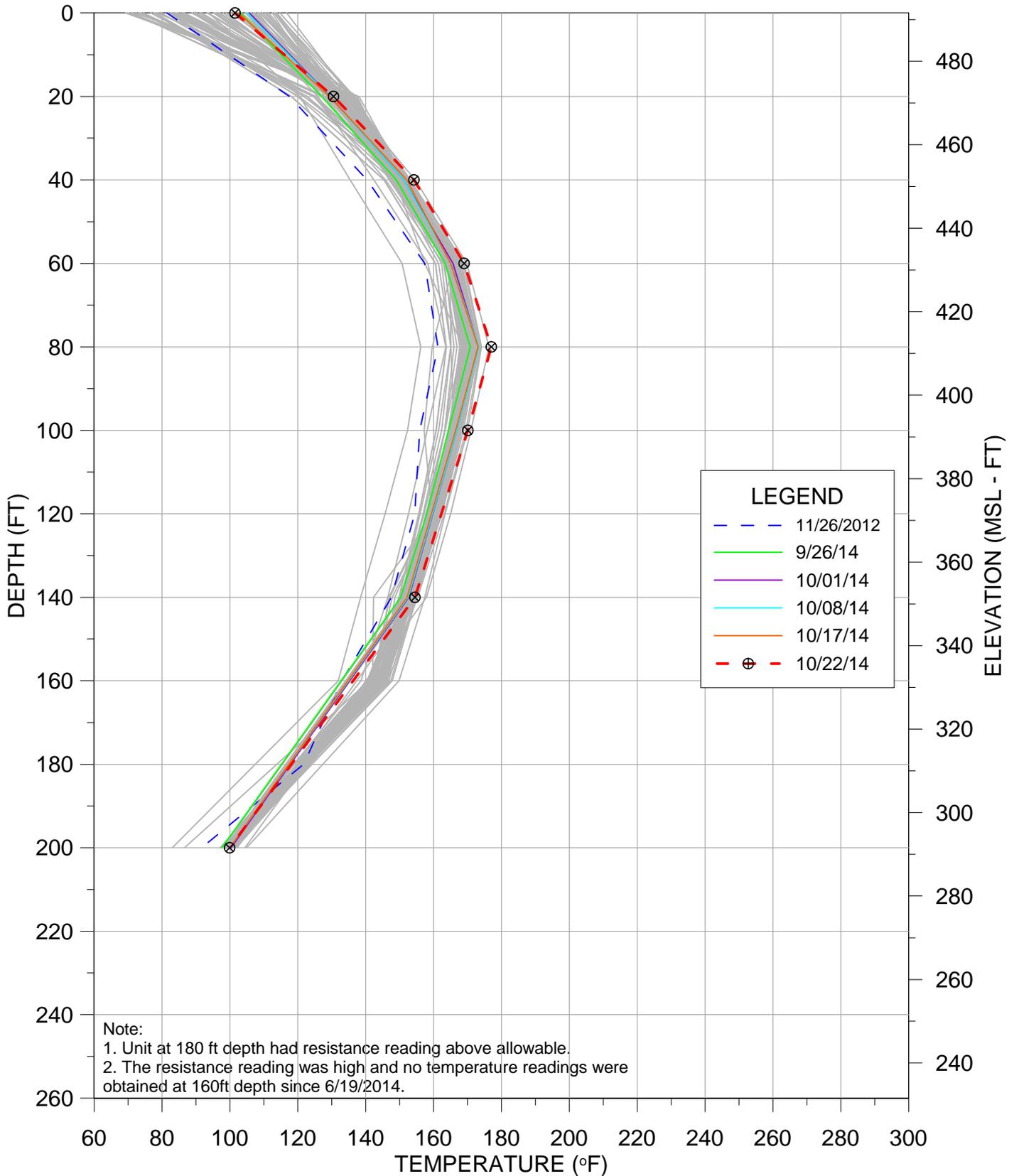
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# TMP-1



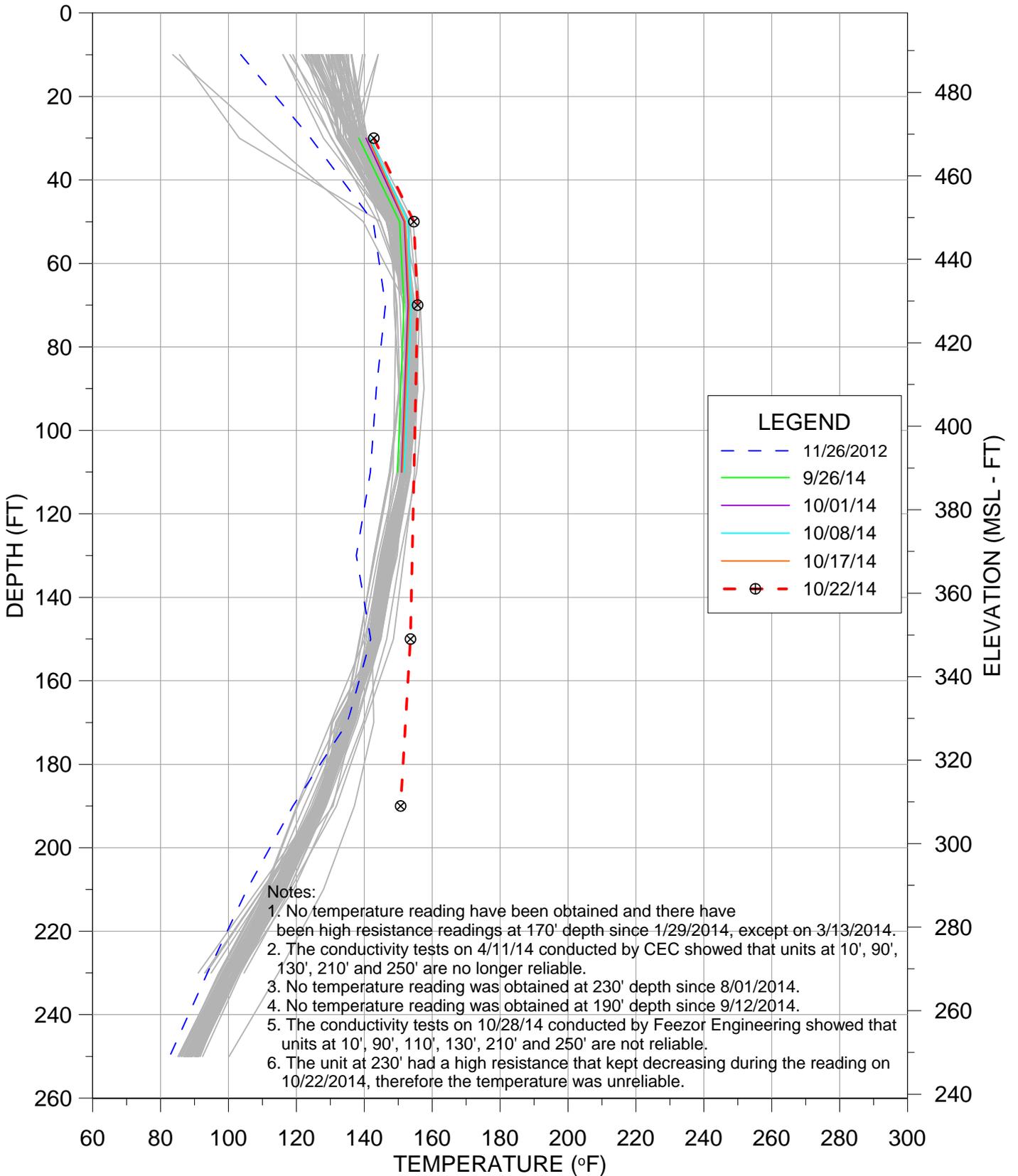
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-2



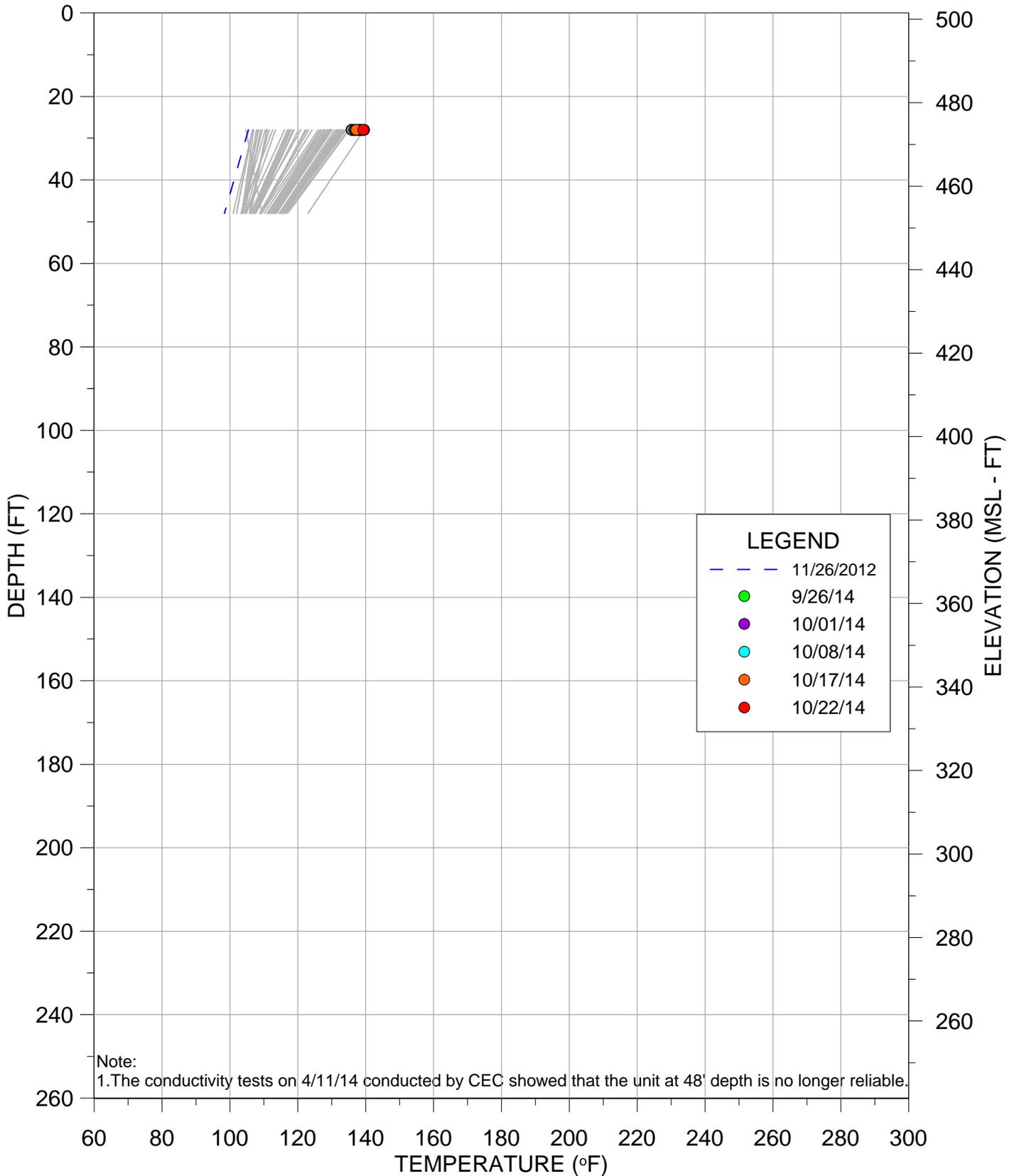
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-3



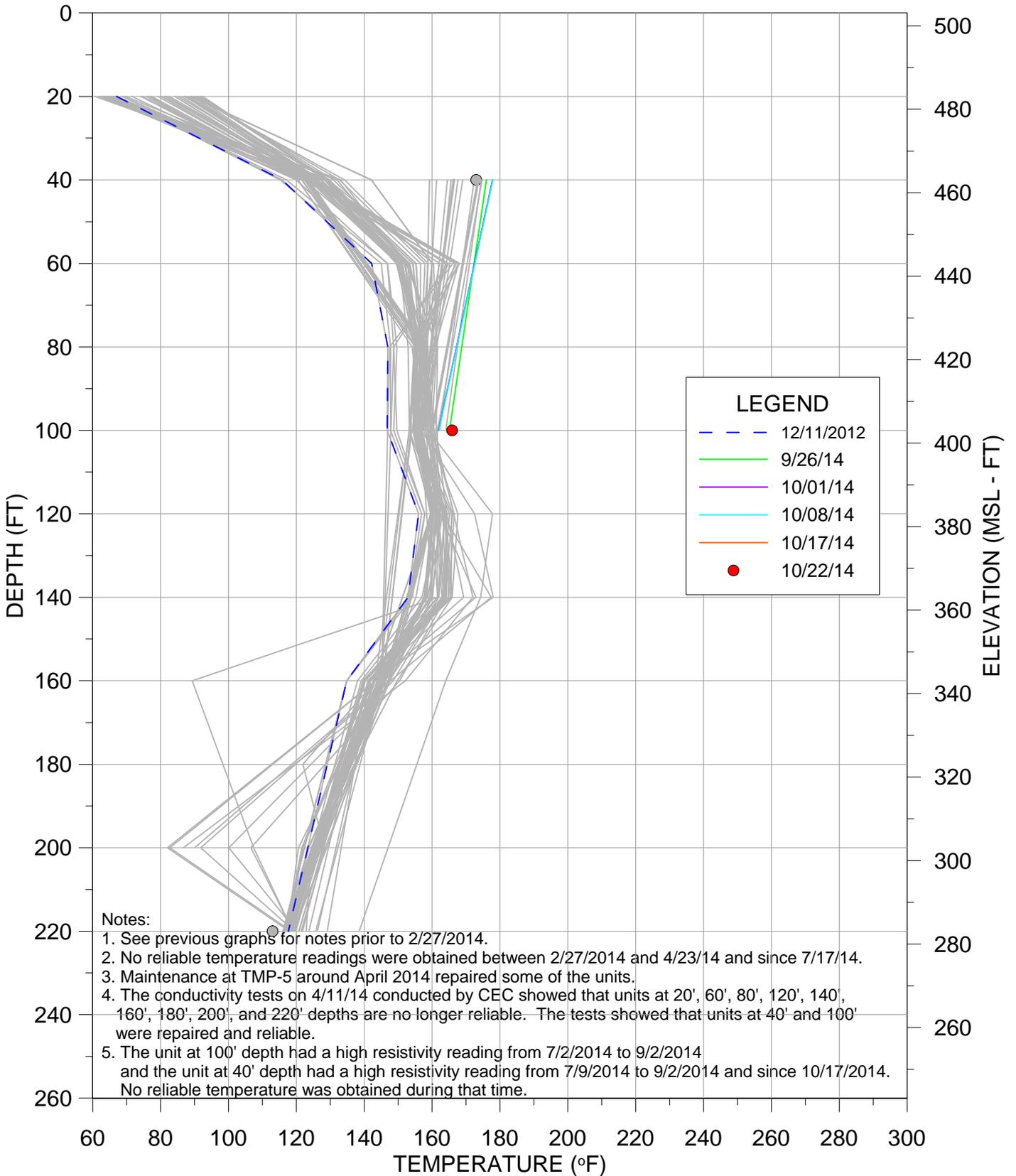
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-4



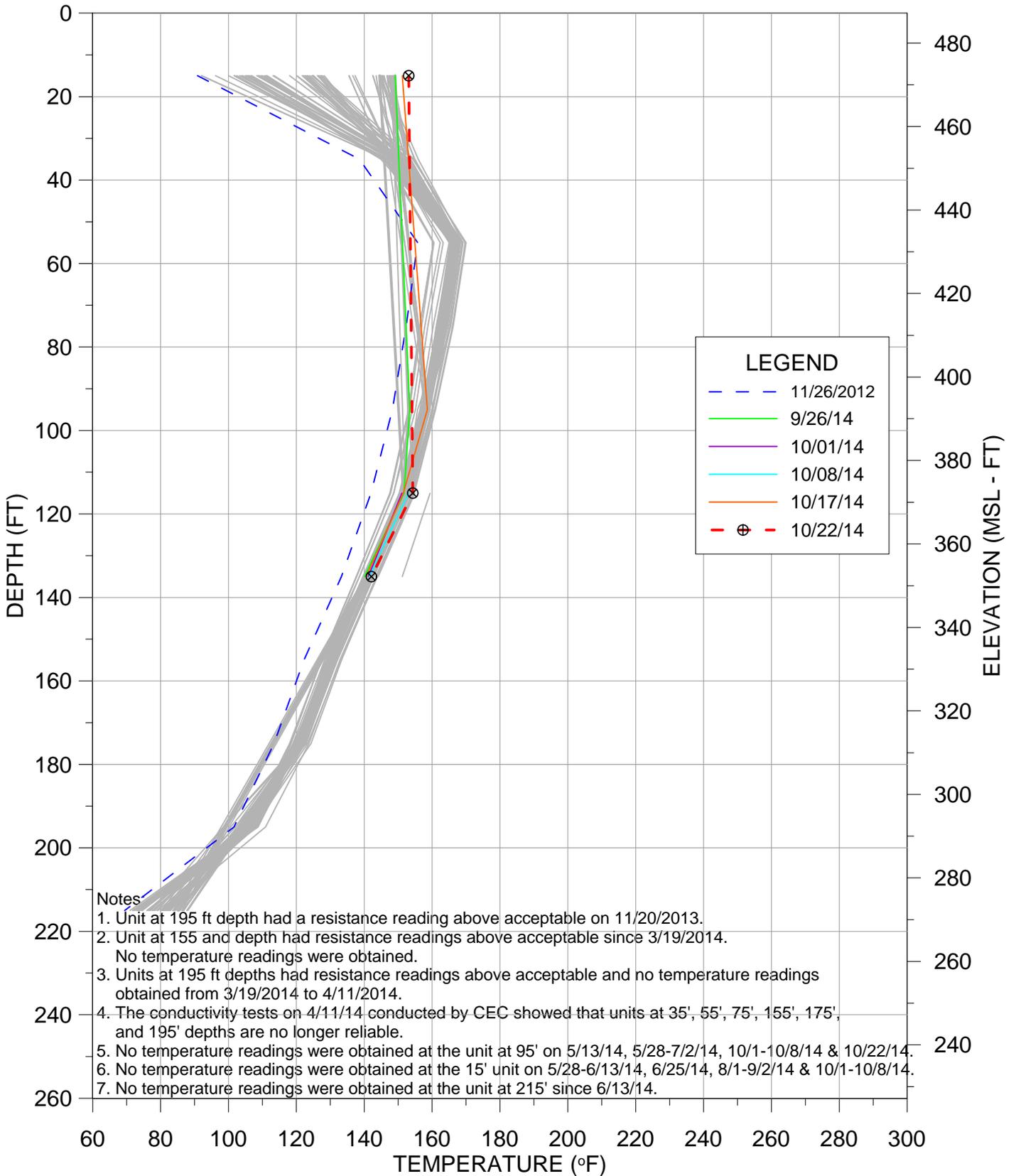
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-5



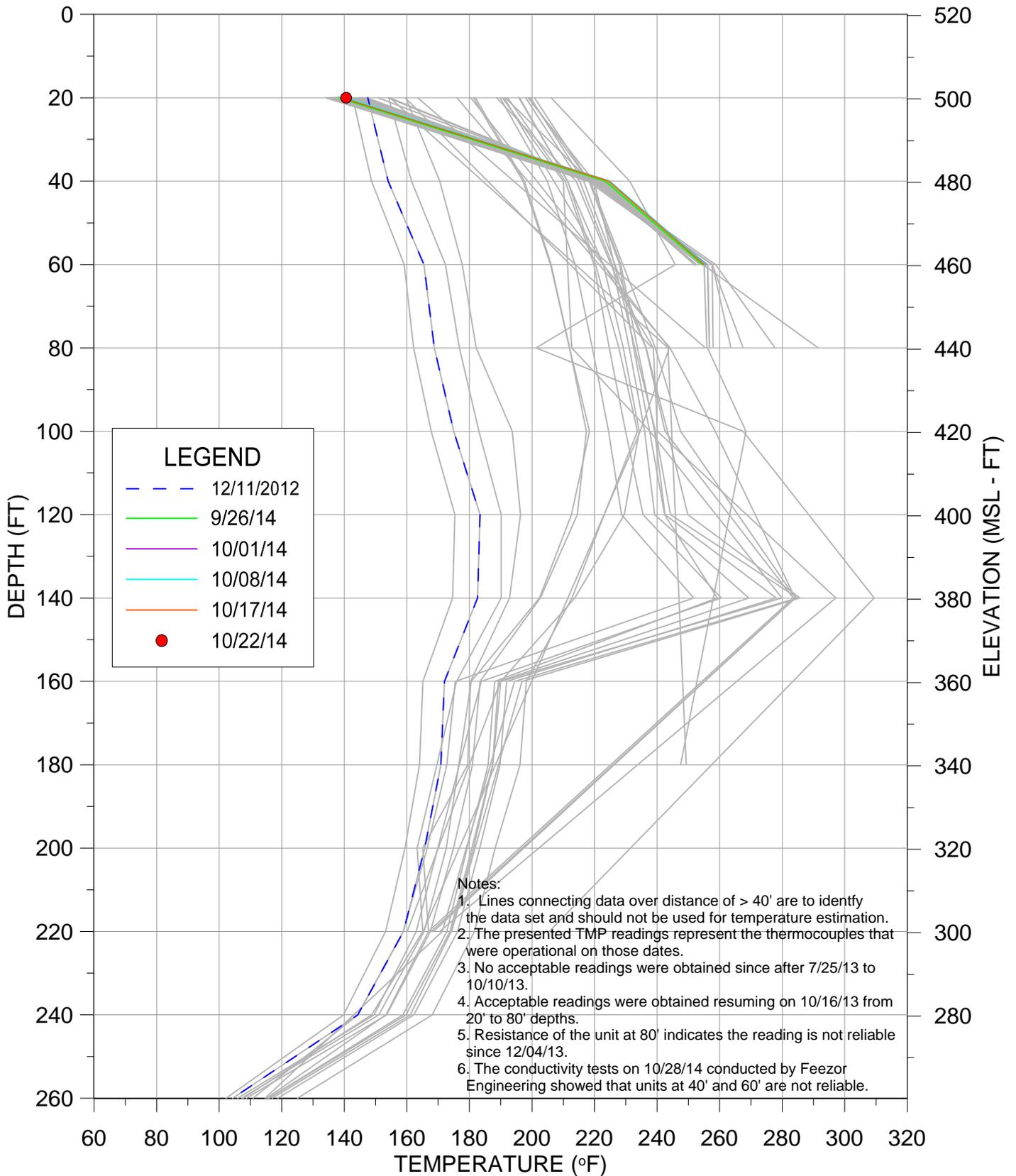
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-6



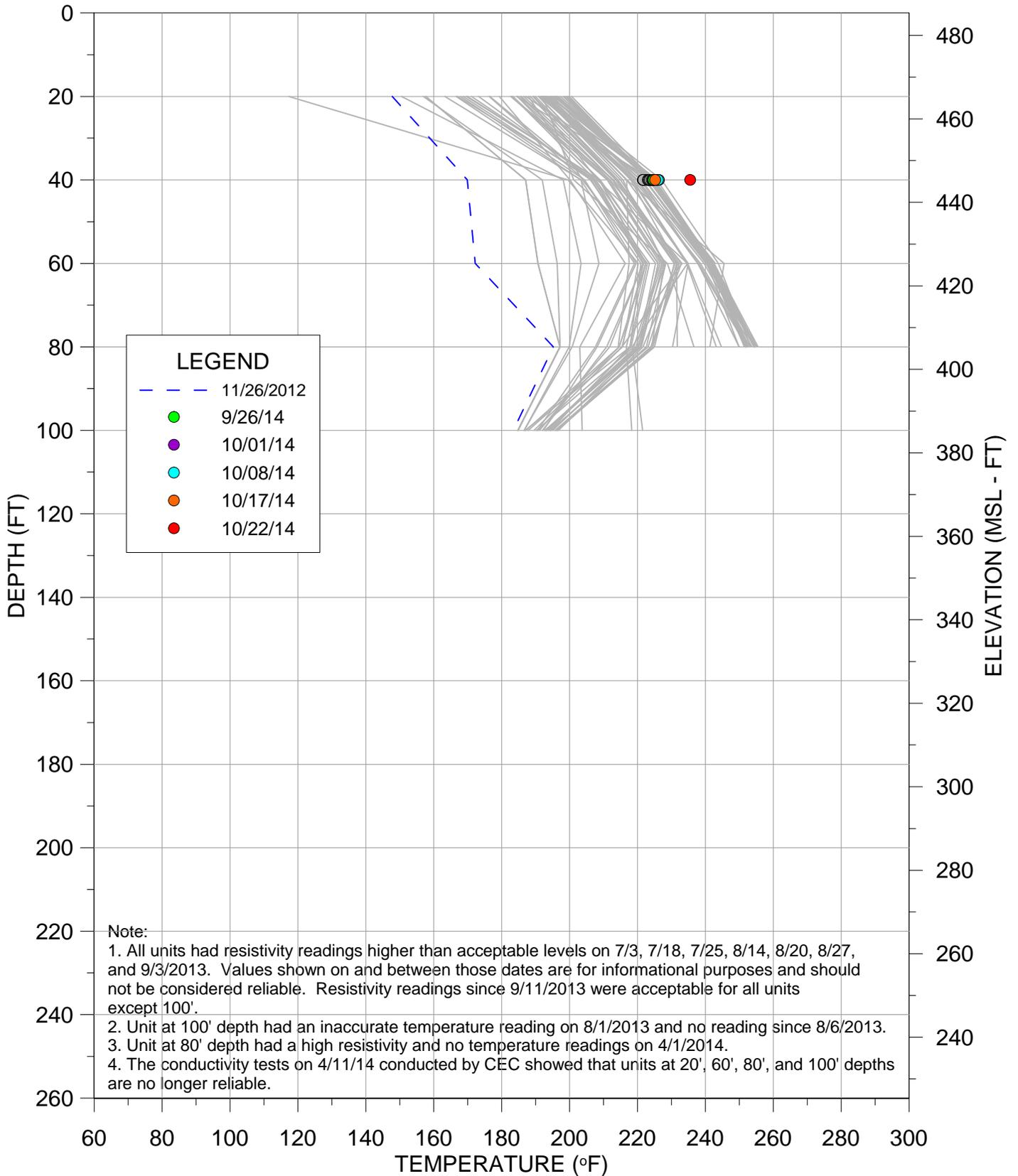
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-8



TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

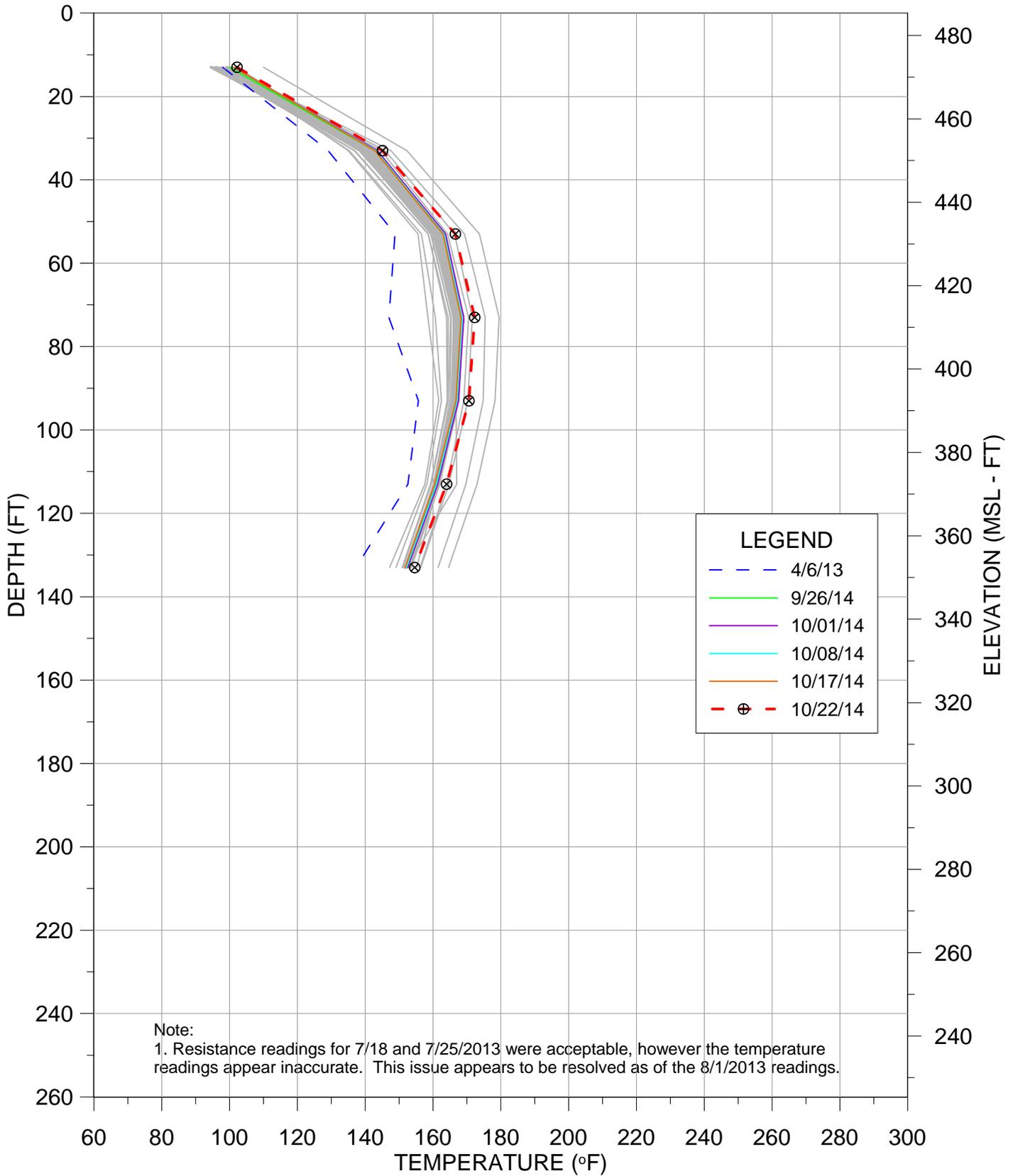
# TMP-9



**Note:**

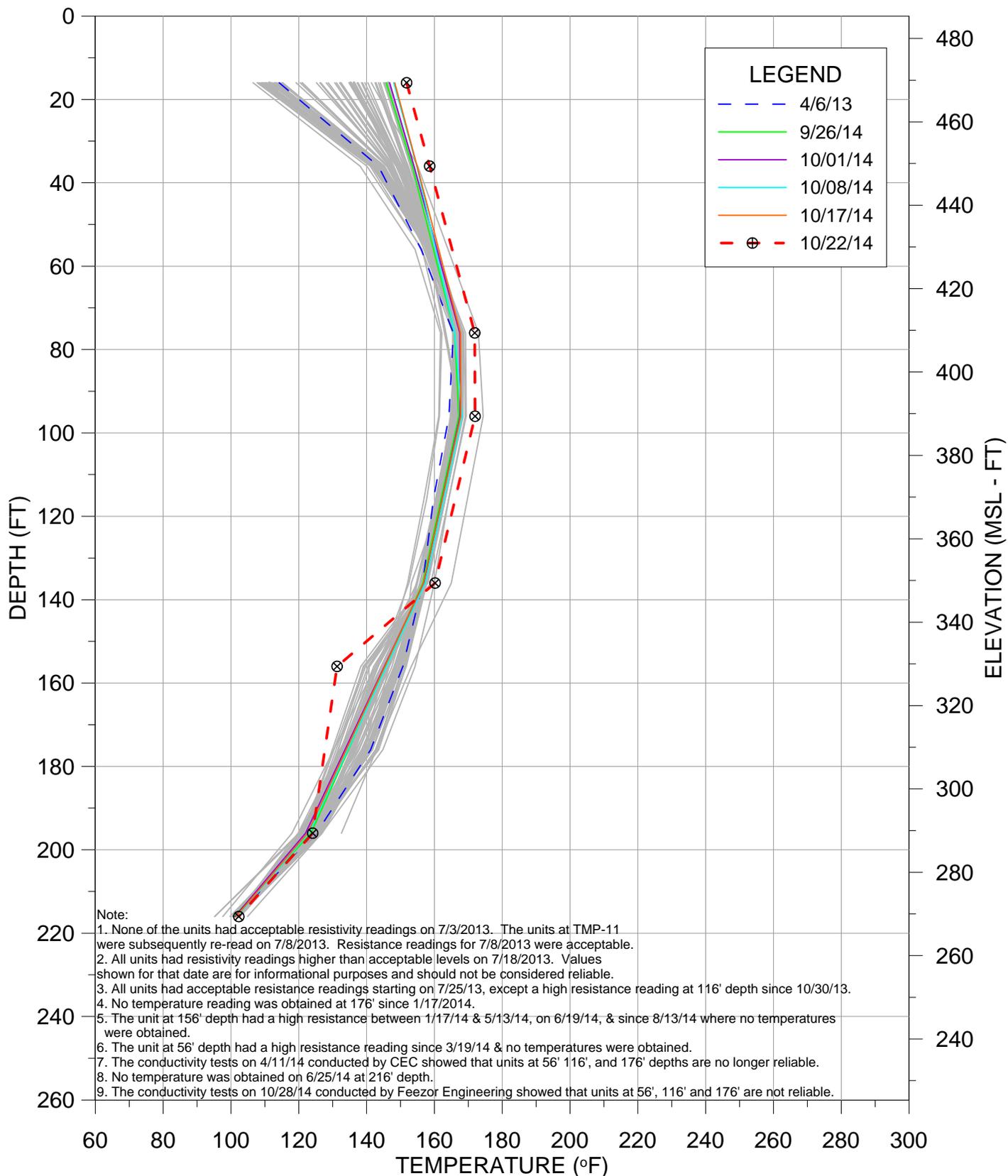
1. All units had resistivity readings higher than acceptable levels on 7/3, 7/18, 7/25, 8/14, 8/20, 8/27, and 9/3/2013. Values shown on and between those dates are for informational purposes and should not be considered reliable. Resistivity readings since 9/11/2013 were acceptable for all units except 100'.
2. Unit at 100' depth had an inaccurate temperature reading on 8/1/2013 and no reading since 8/6/2013.
3. Unit at 80' depth had a high resistivity and no temperature readings on 4/1/2014.
4. The conductivity tests on 4/11/14 conducted by CEC showed that units at 20', 60', 80', and 100' depths are no longer reliable.

# TMP-10



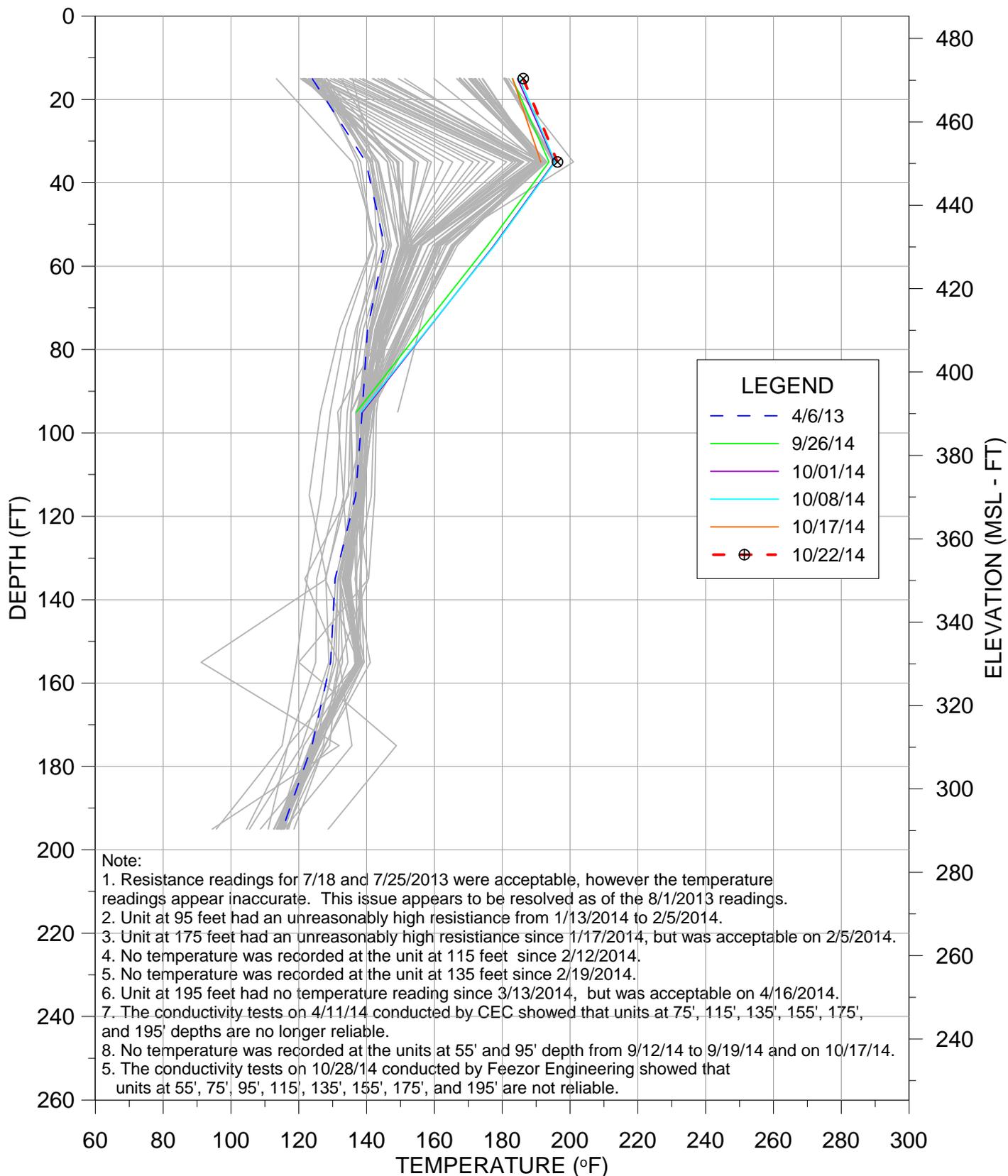
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-11



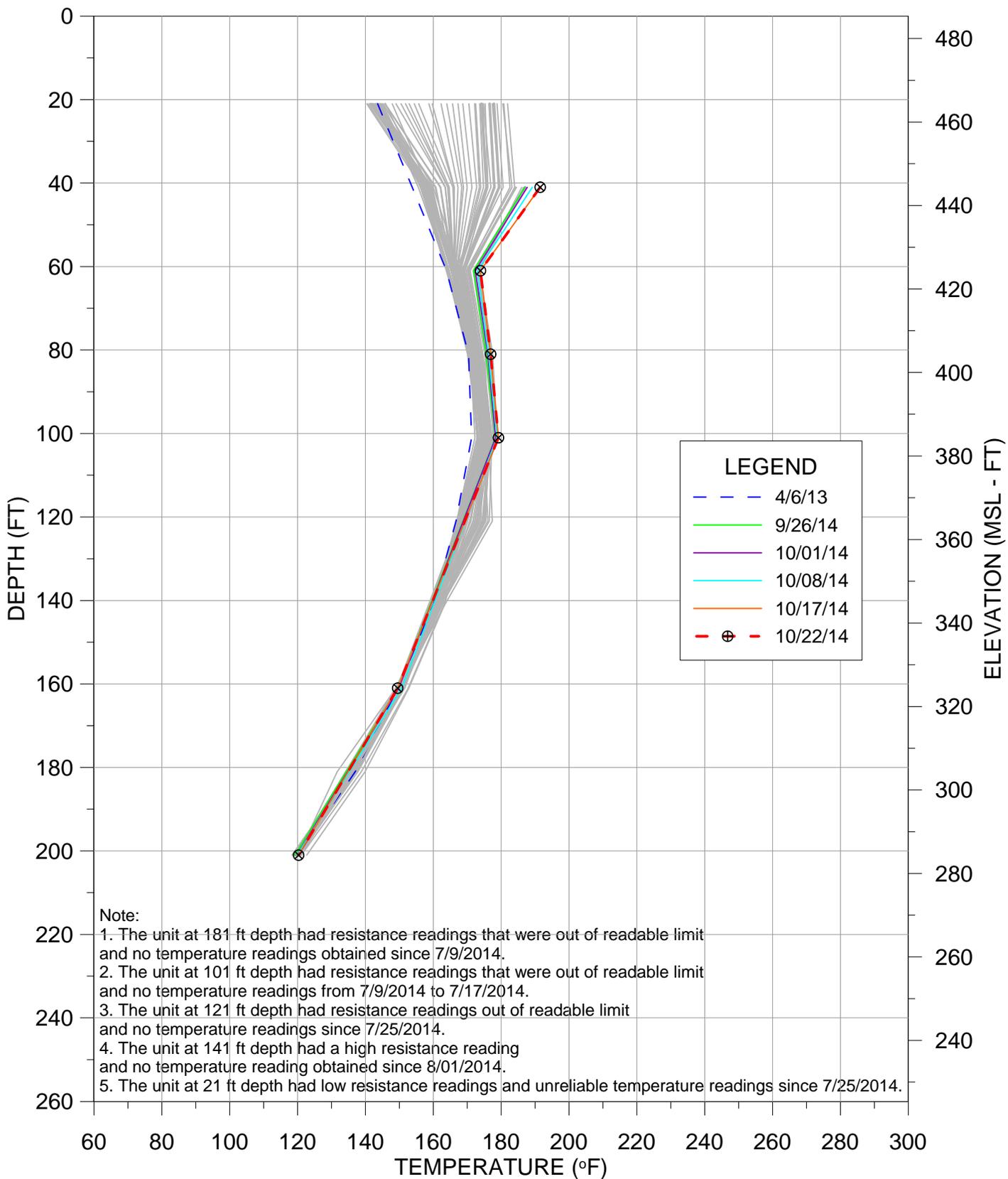
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-12



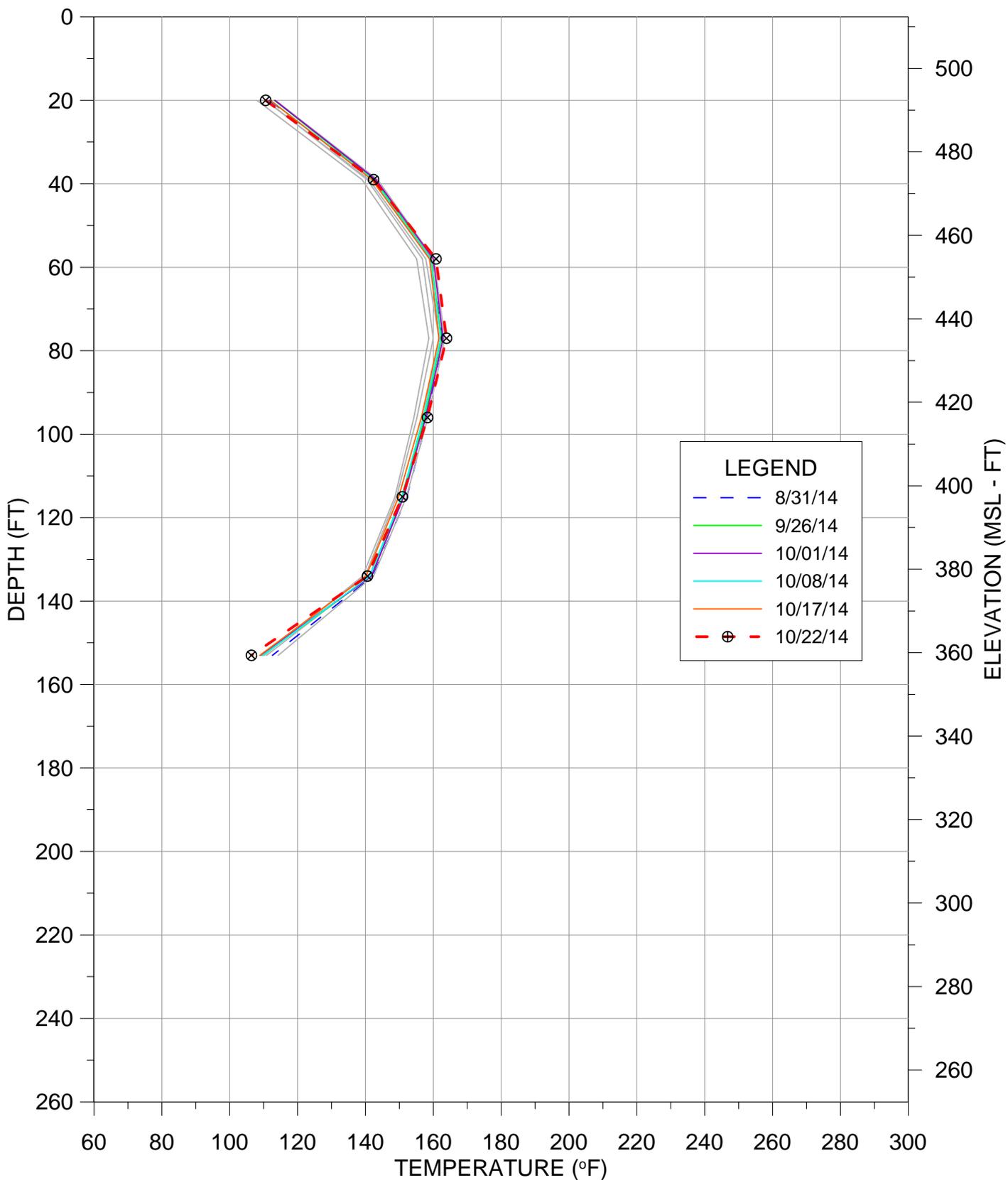
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-14



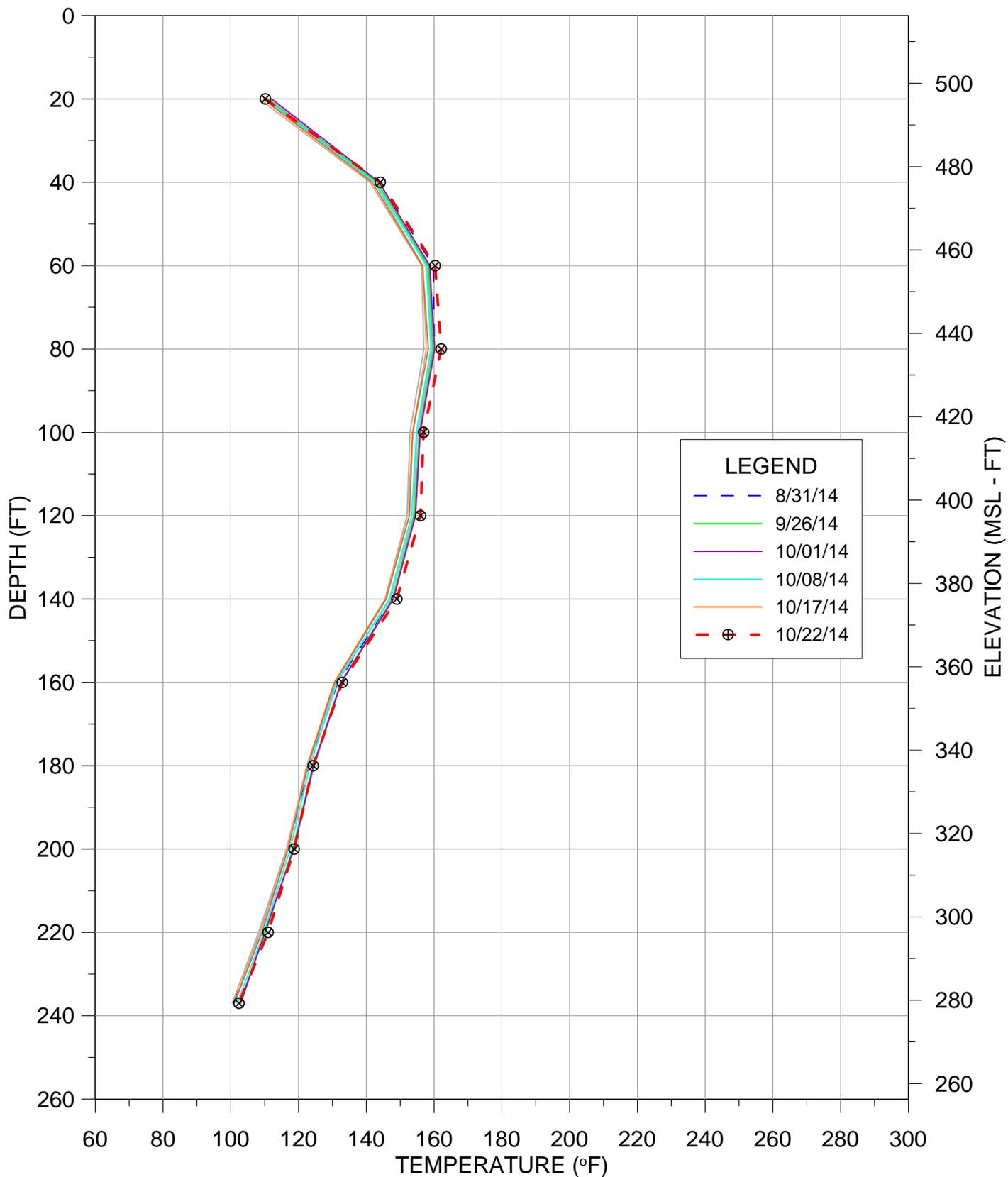
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-16



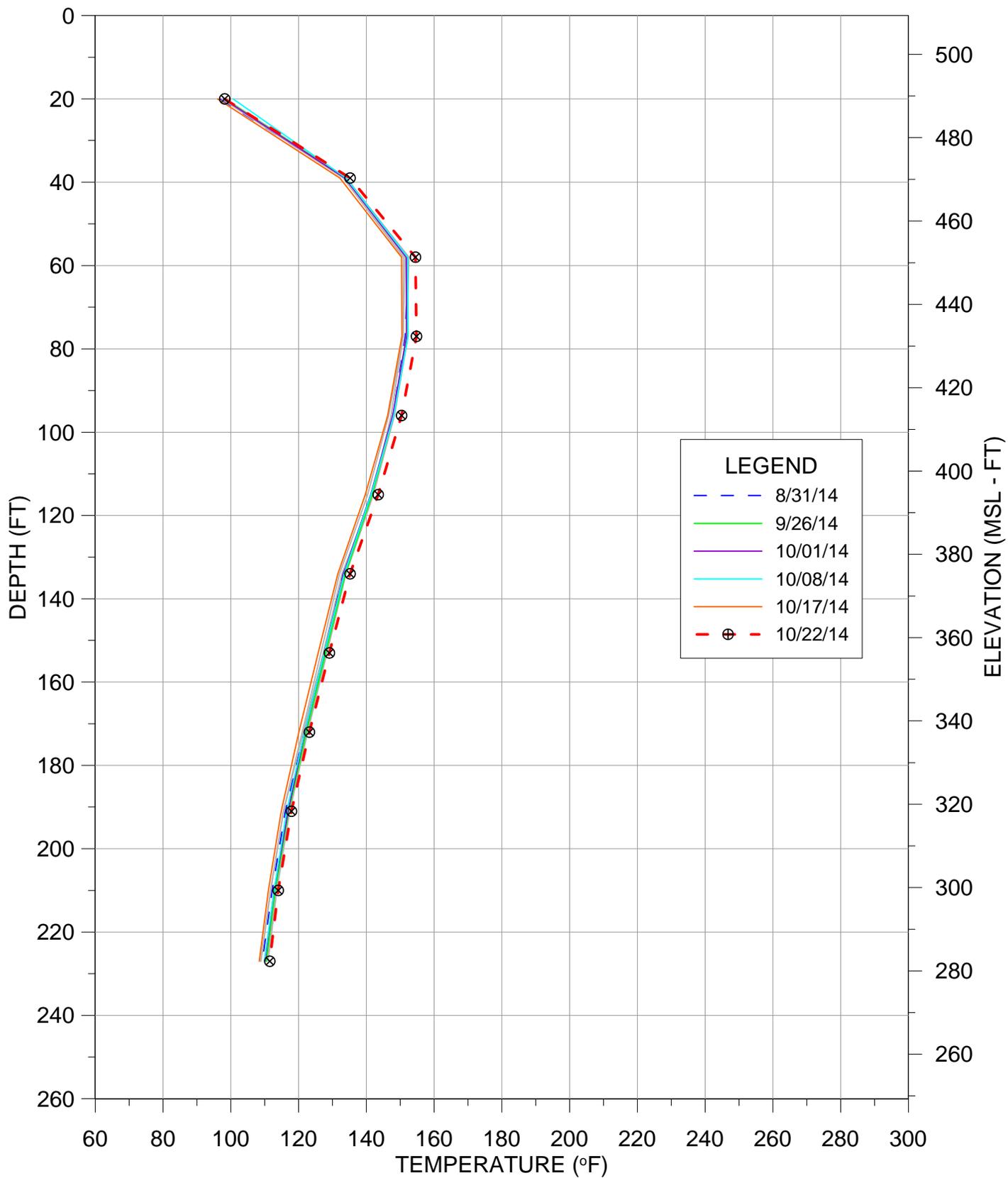
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# TMP-17



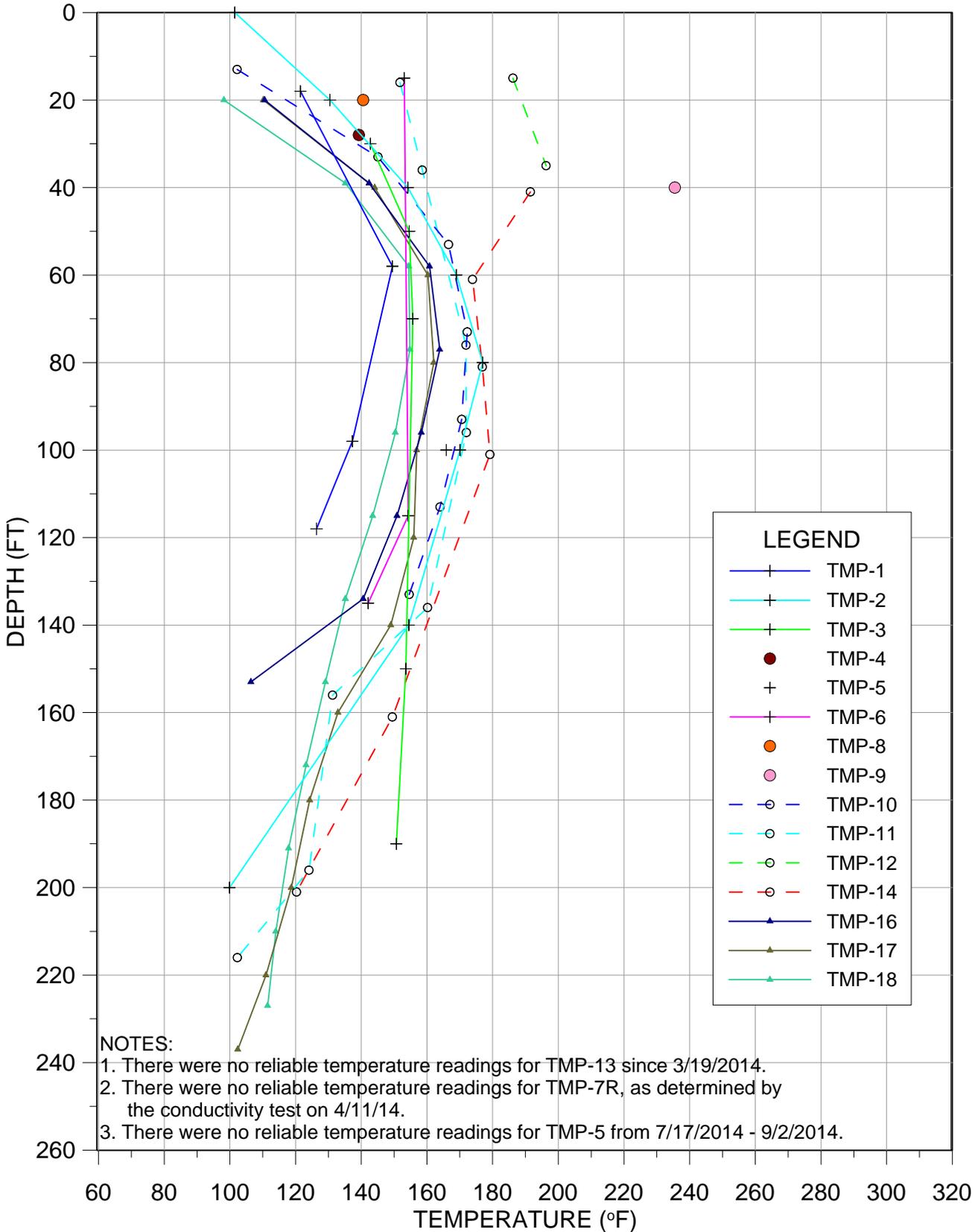
TEMPERATURE VS DEPTH  
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# TMP-18



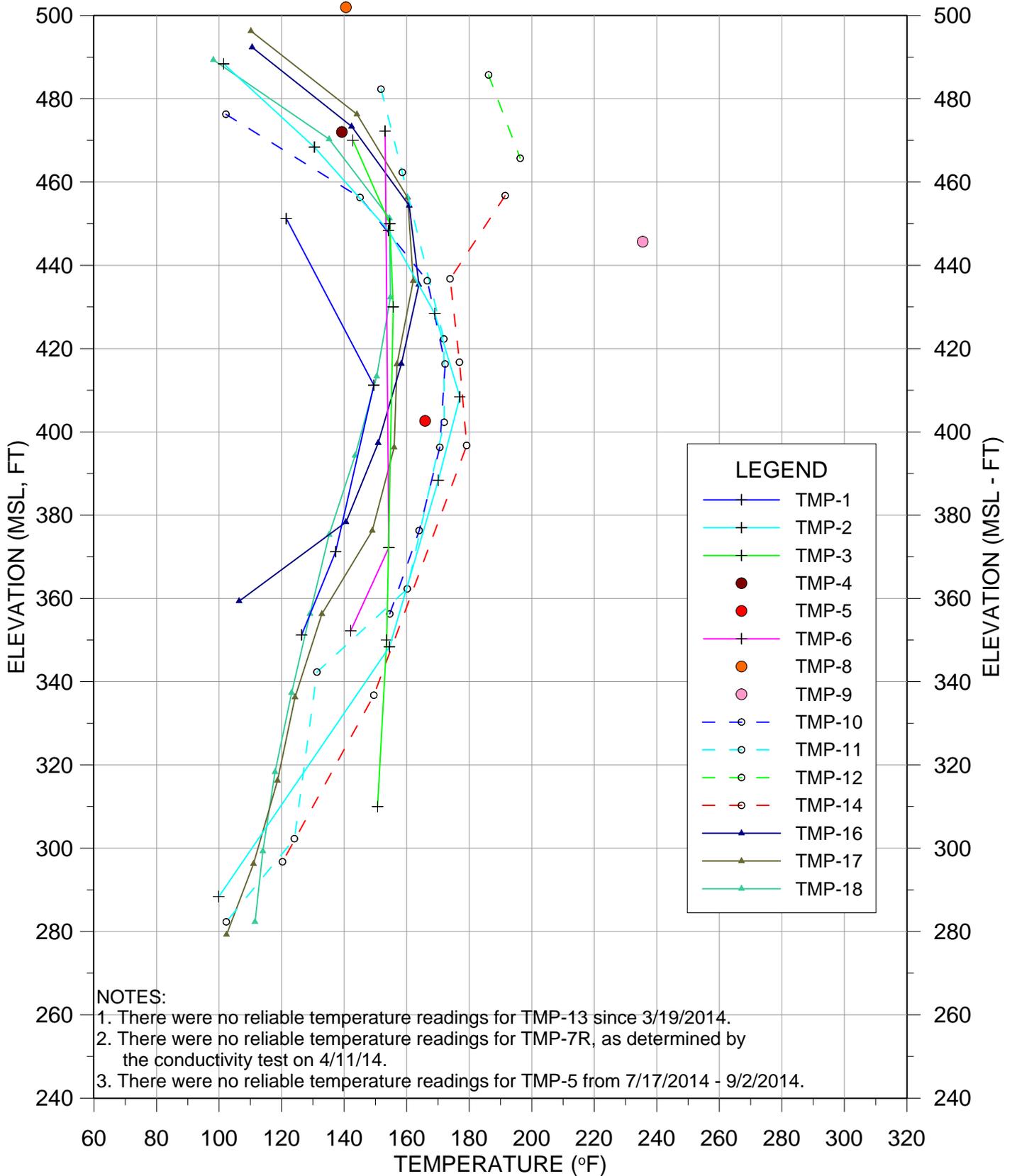
TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

# 10/22/2014 -DEPTH



TEMPERATURE VS DEPTH  
BRIDGETON LANDFILL

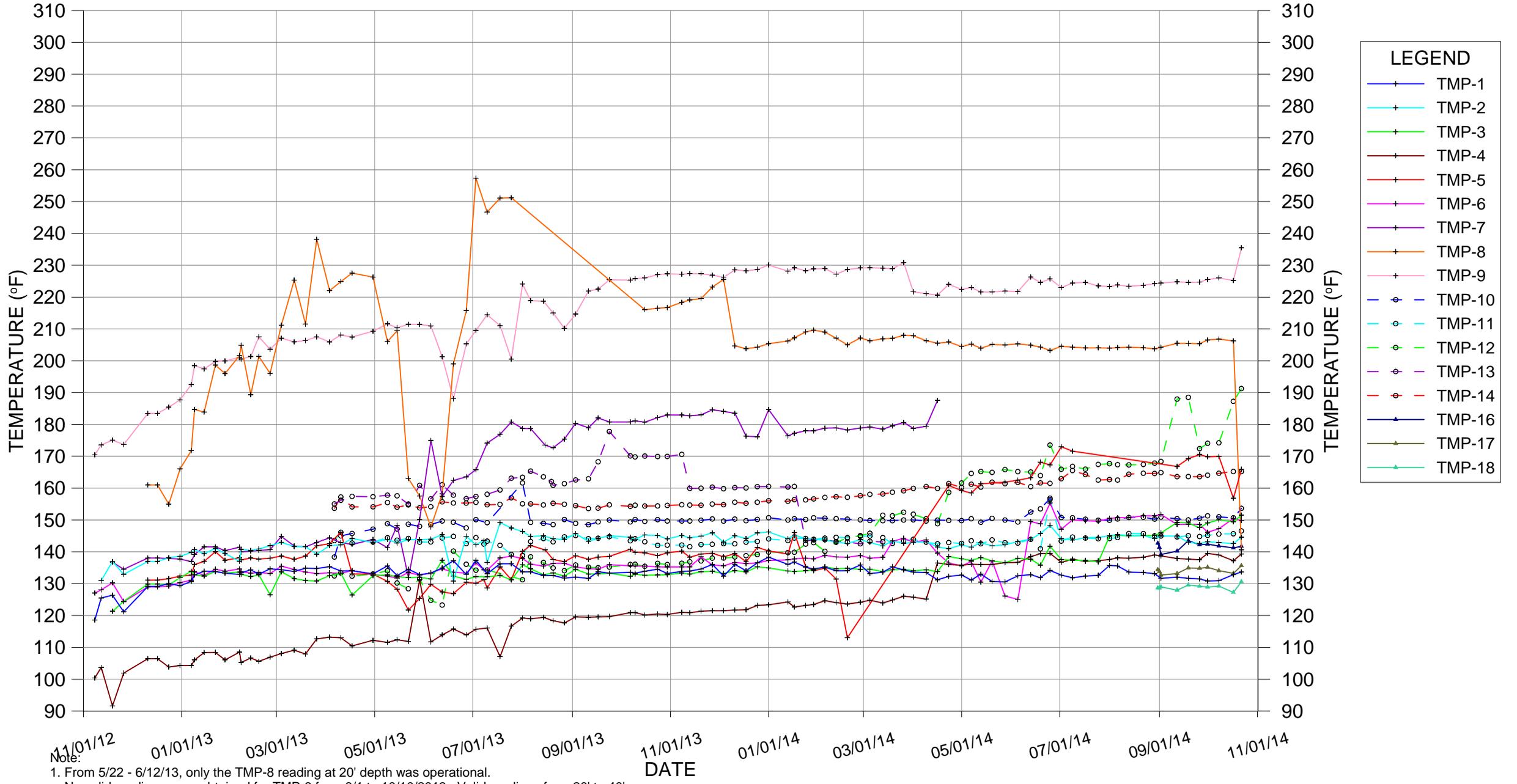
# 10/22/2014 - ELEVATION



**NOTES:**

1. There were no reliable temperature readings for TMP-13 since 3/19/2014.
2. There were no reliable temperature readings for TMP-7R, as determined by the conductivity test on 4/11/14.
3. There were no reliable temperature readings for TMP-5 from 7/17/2014 - 9/2/2014.

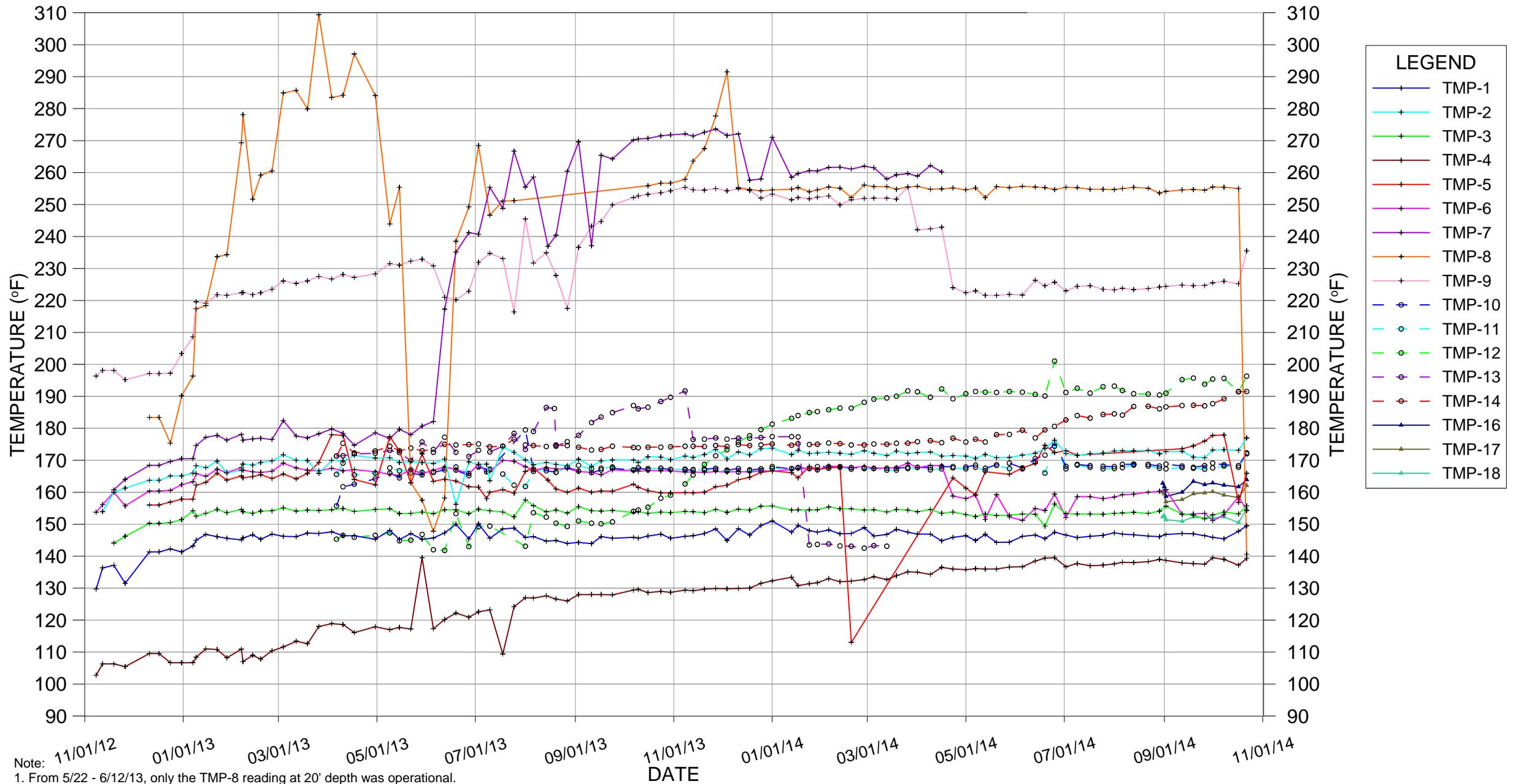
# AVERAGE TEMPERATURES



- Note:
1. From 5/22 - 6/12/13, only the TMP-8 reading at 20' depth was operational. No valid readings were obtained for TMP-8 from 8/1 to 10/10/2013. Valid readings from 20' to 40' resumed on 10/16/2013.
  2. A new OMEGA dial was installed at TMP-7R on 6/12/2013 enabling more valid readings.
  3. No valid readings were obtained for TMP-10 and TMP-12 on 7/18/2013 or 7/25/2013.
  4. End terminals were replaced just prior to the 8/6/2013 readings with type T Omega connectors (part # SMPW-CC-T-M) on all TMPs except for TMP-8.

TEMPERATURE VS TIME  
BRIDGETON LANDFILL

# MAXIMUM TEMPERATURES



Note: 11/01/12 01/01/13 03/01/13 05/01/13 07/01/13 09/01/13 11/01/13 01/01/14 03/01/14 05/01/14 07/01/14 09/01/14 11/01/14

- From 5/22 - 6/12/13, only the TMP-8 reading at 20' depth was operational. No valid readings were obtained for TMP-8 from 8/1 to 10/10/2013. Valid readings from 20' to 40' resumed on 10/16/2013.
- A new OMEGA dial was installed at TMP-7R on 6/12/2013 enabling more valid readings.
- No valid readings were obtained for TMP-10 and TMP-12 on 7/18/2013 or 7/25/2013.
- End terminals were replaced just prior to the 8/6/2013 readings with type T Omega connectors (part # SMPW-CC-T-M) on all TMPs except for TMP-8.

TEMPERATURE VS TIME  
BRIDGETON LANDFILL

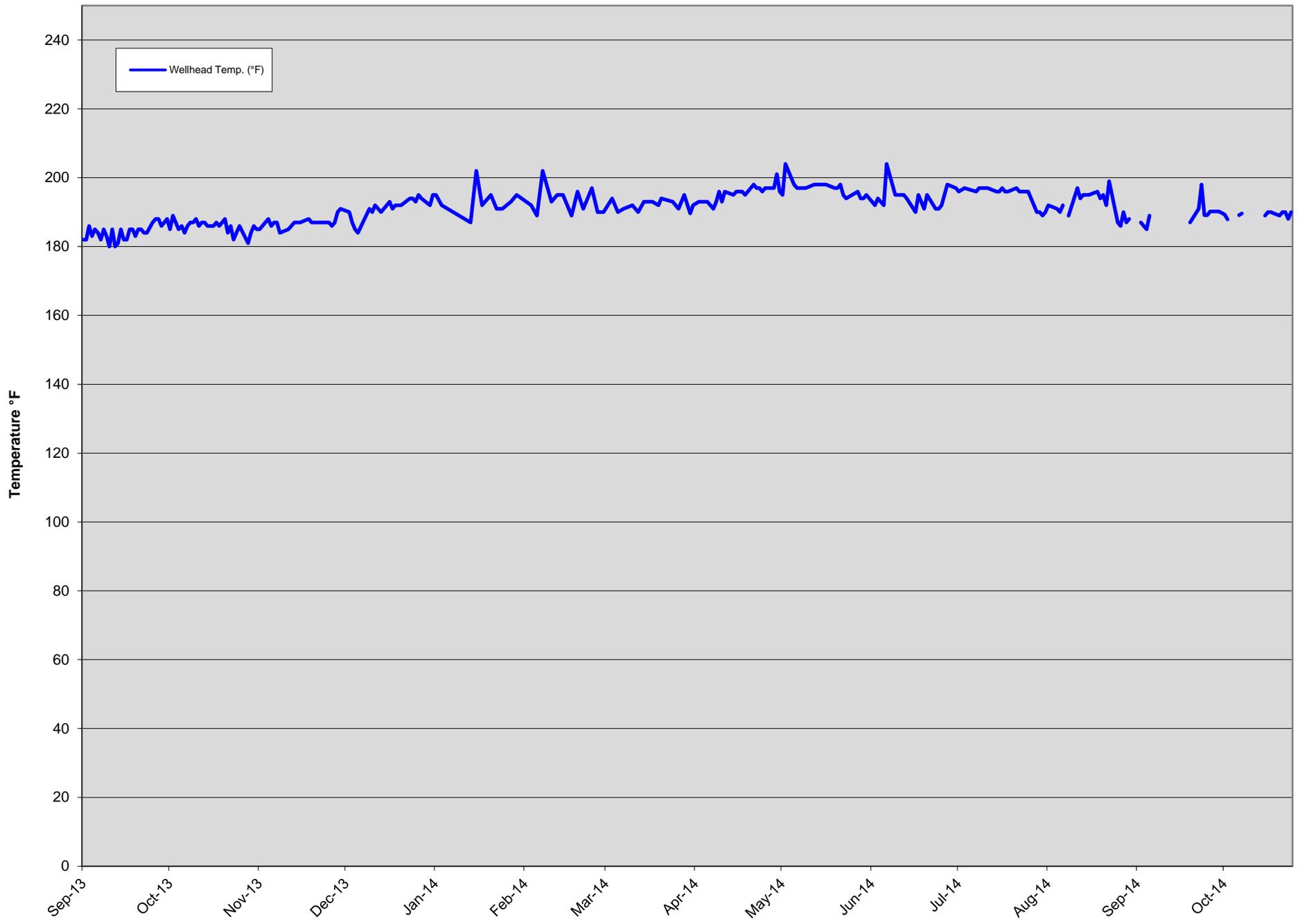
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**ATTACHMENT C**

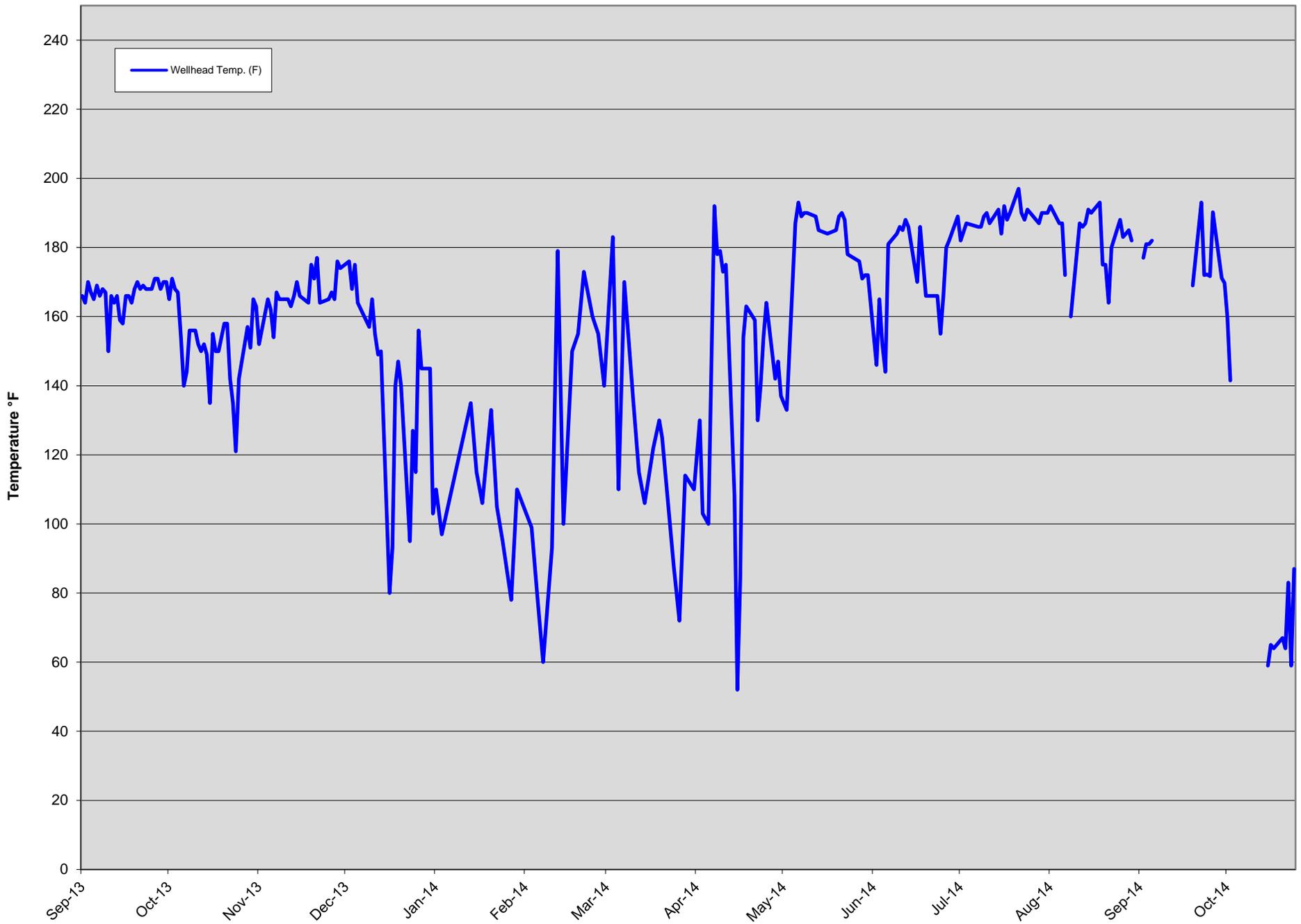
**GAS INTERCEPTOR WELLHEAD TEMPERATURE GRAPHS**

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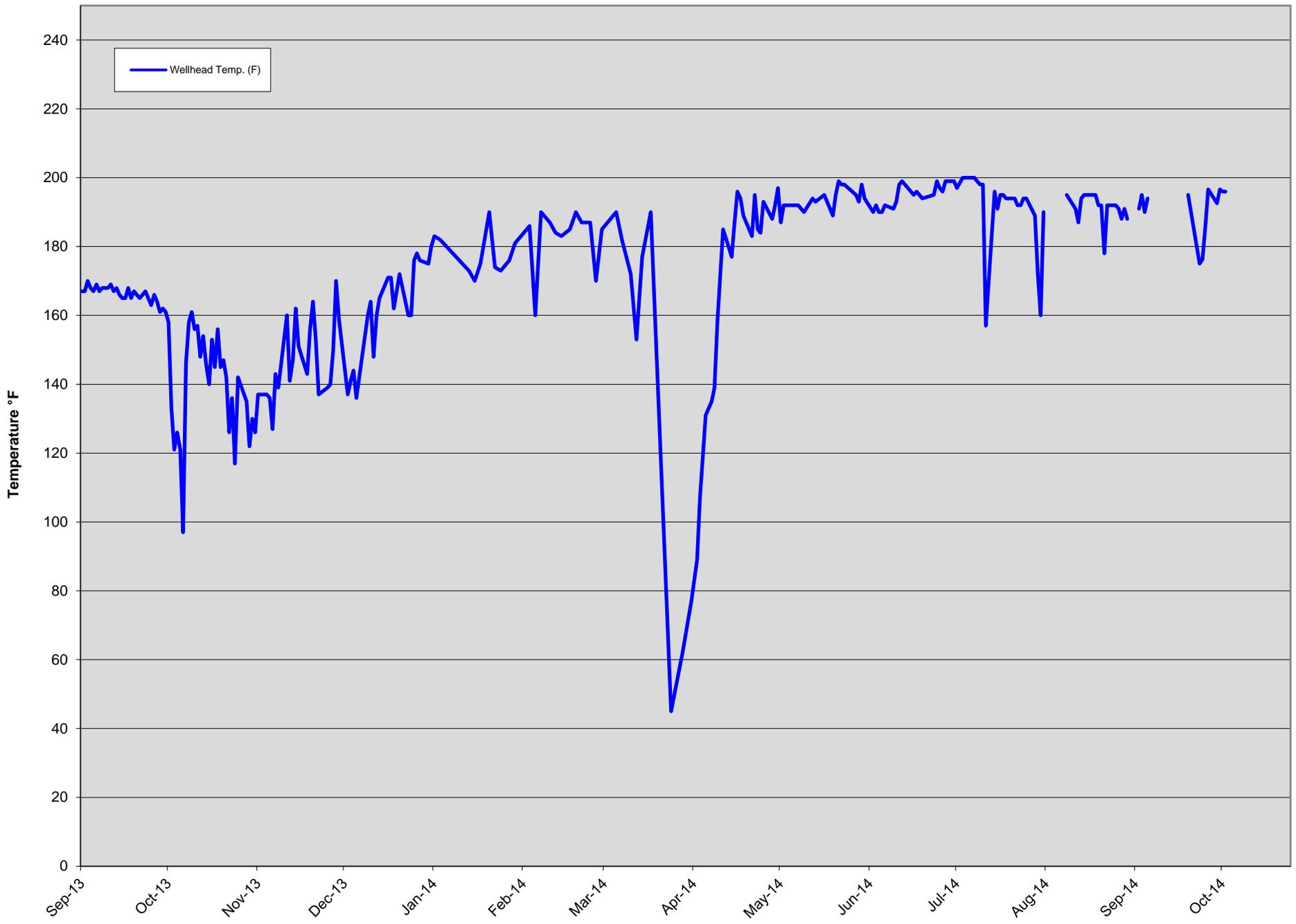
# GIW-1 Wellhead Temperatures



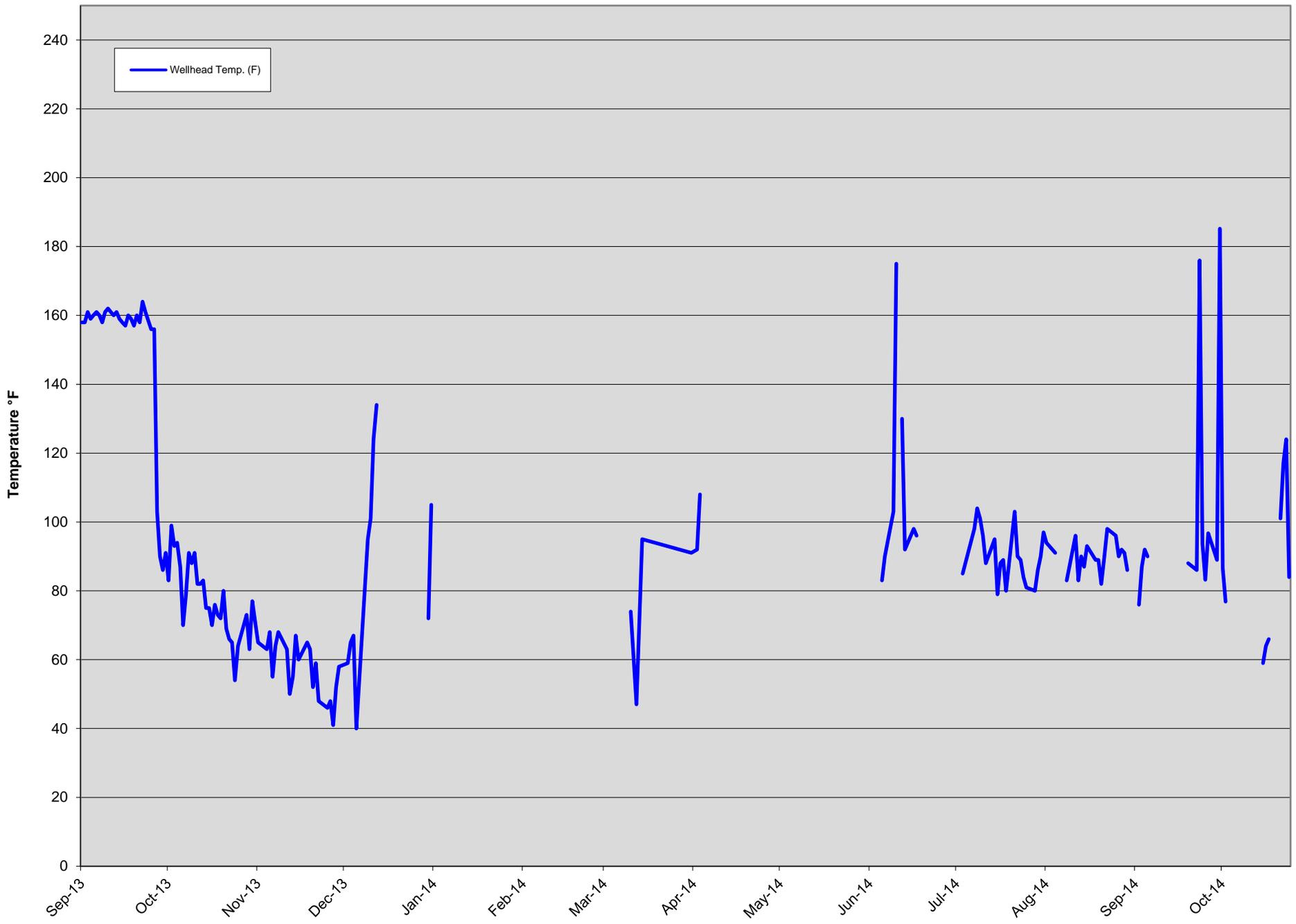
# GIW-2 Wellhead Temperatures



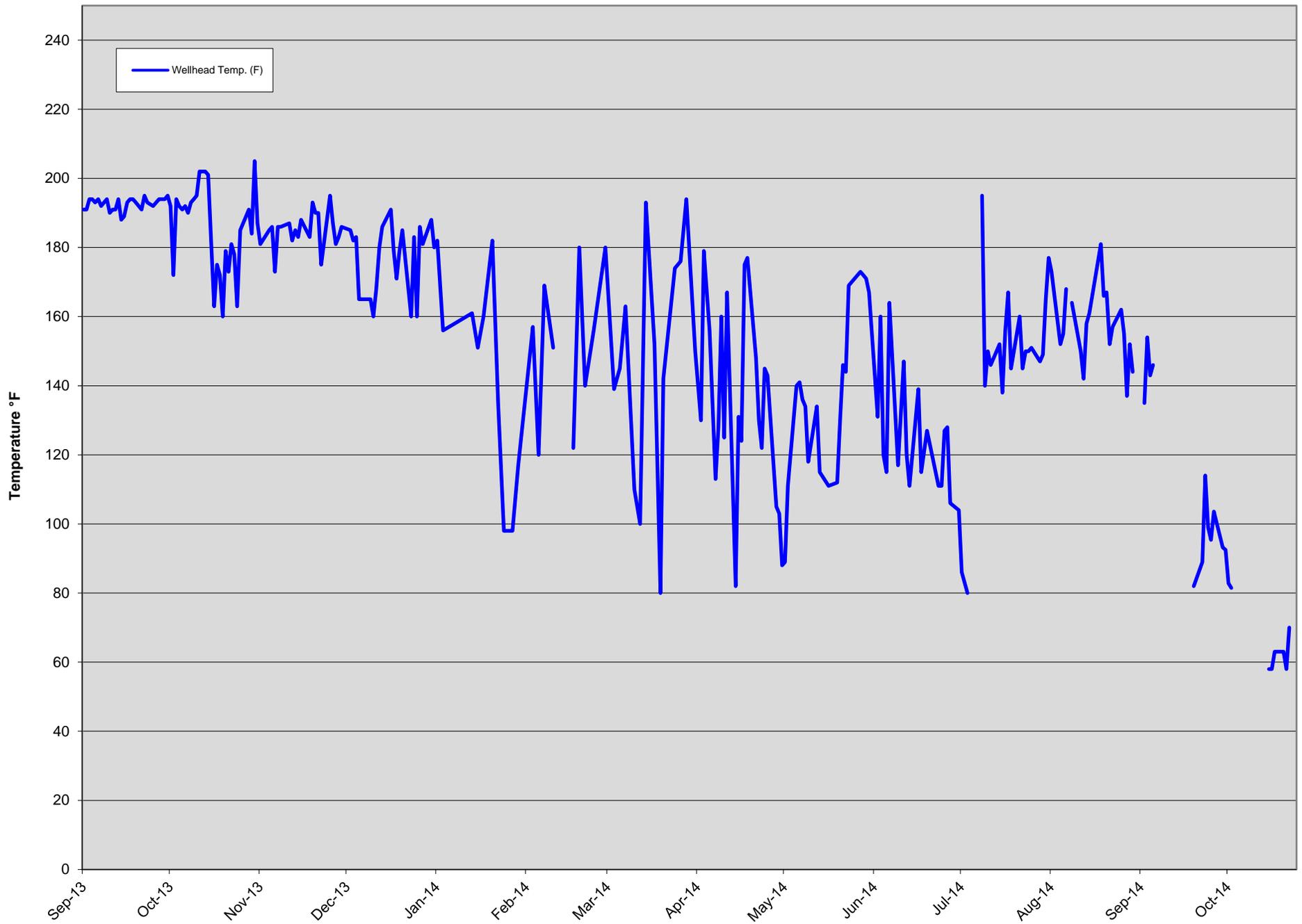
# GIW-3 Wellhead Temperatures



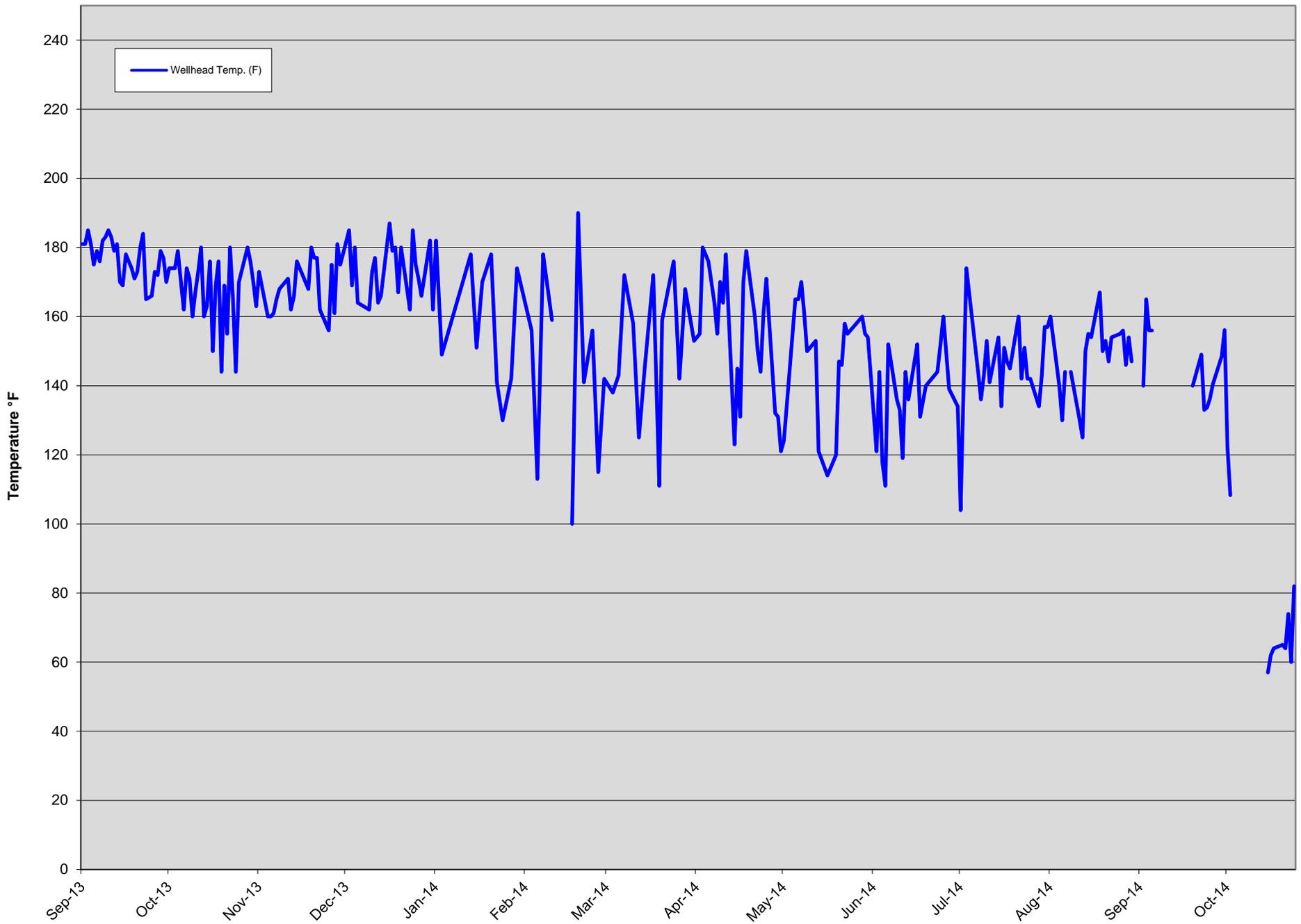
# GIW-4 Wellhead Temperatures



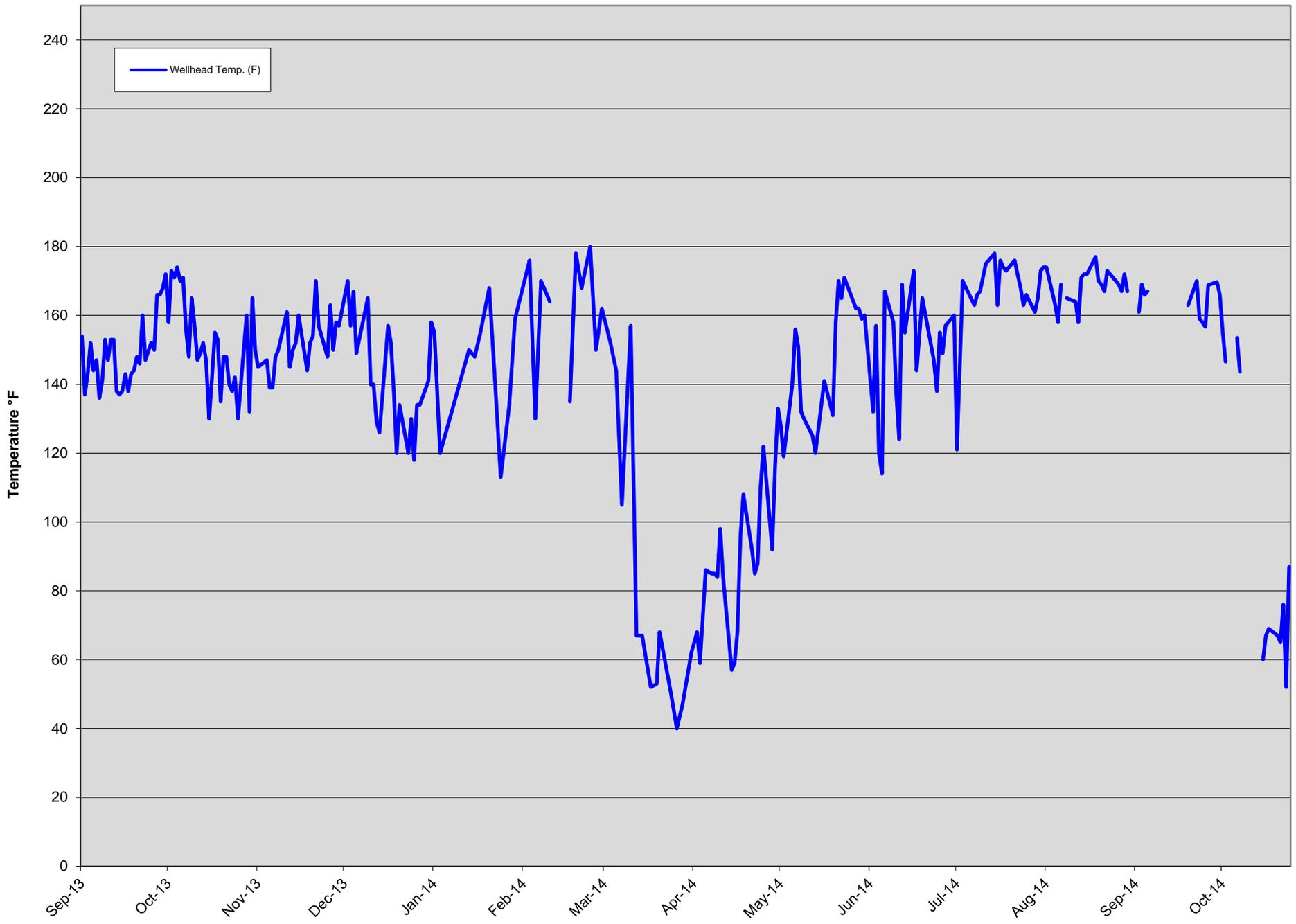
# GIW-5 Wellhead Temperatures



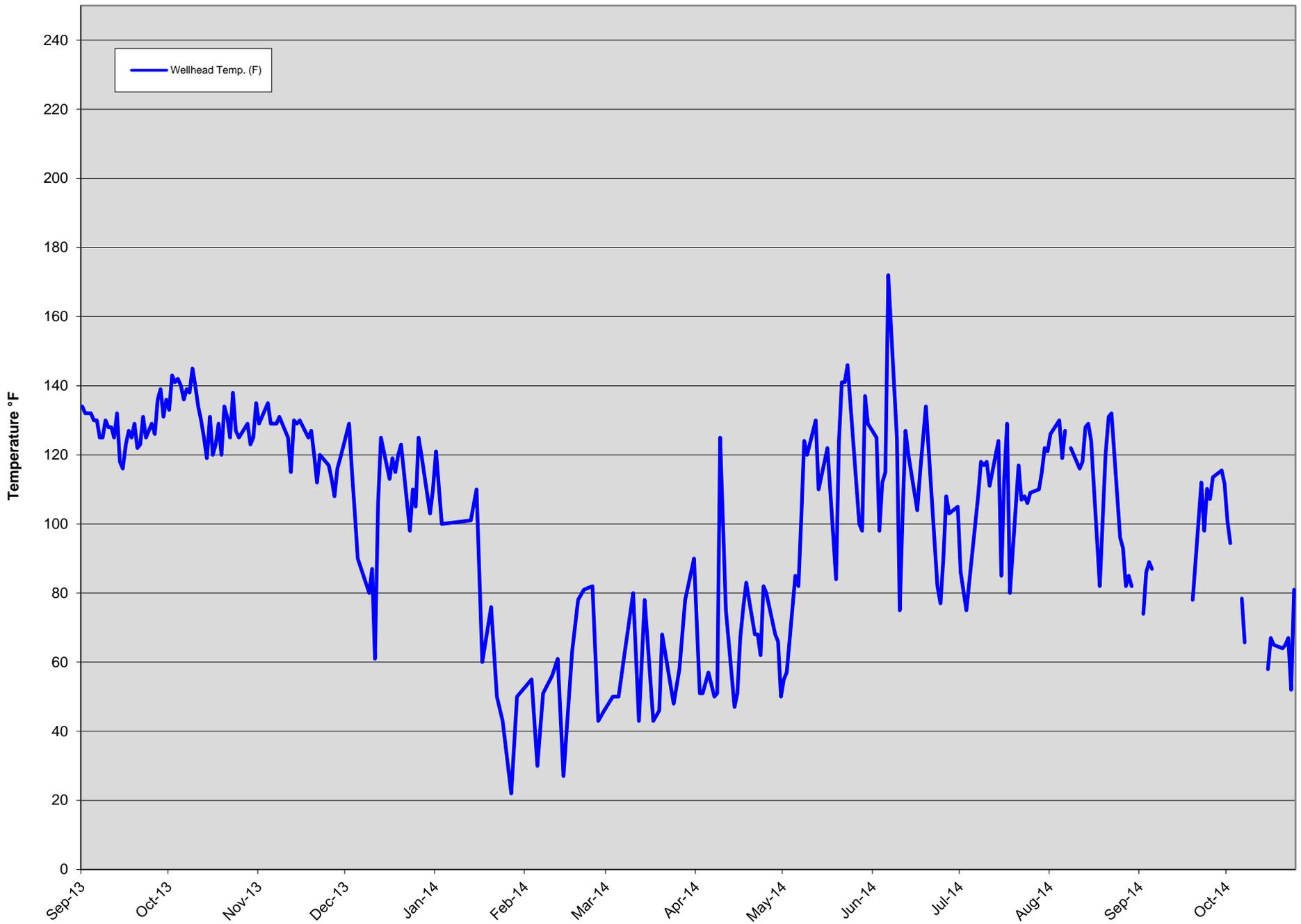
# GIW-6 Wellhead Temperatures



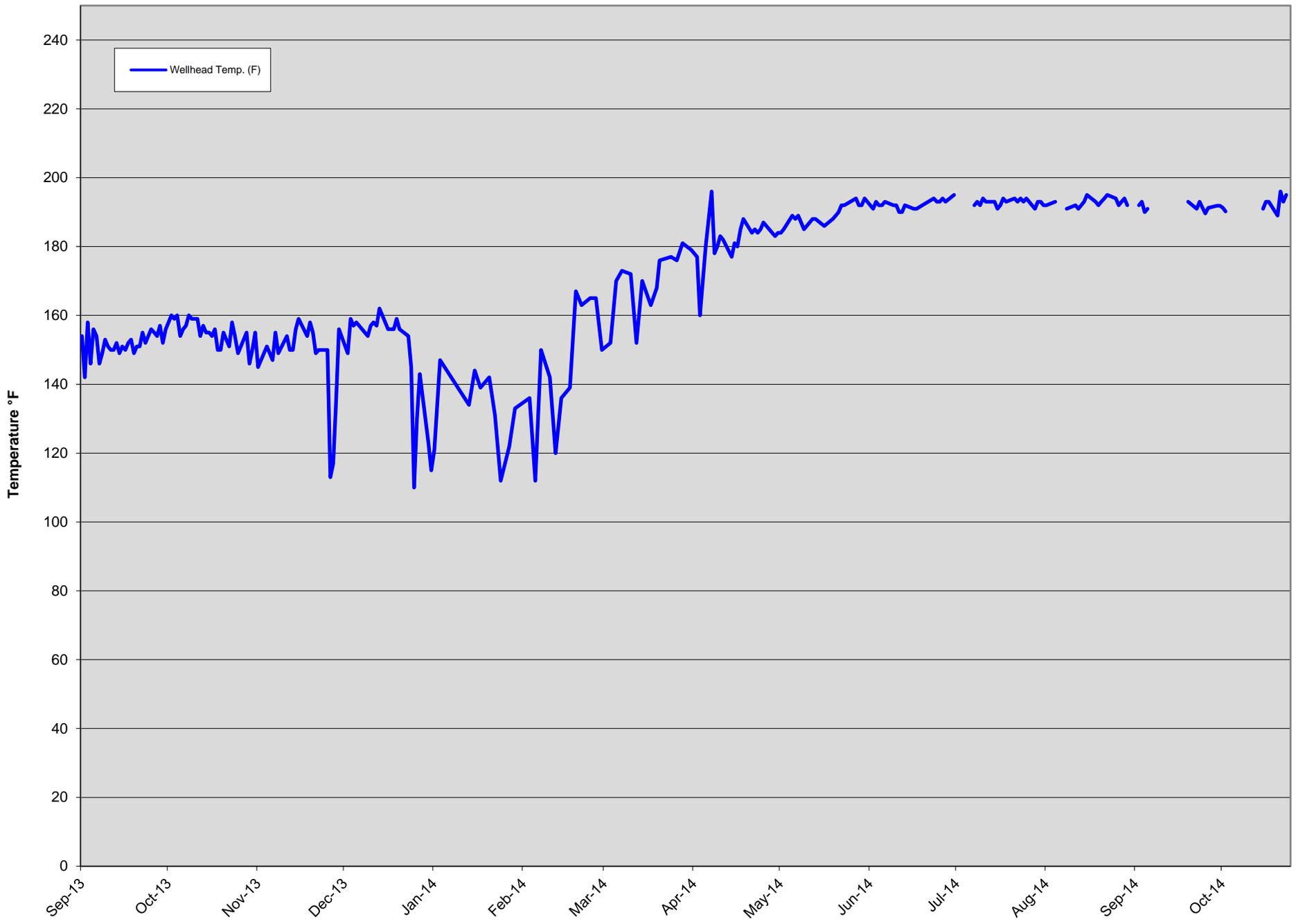
# GIW-7 Wellhead Temperatures



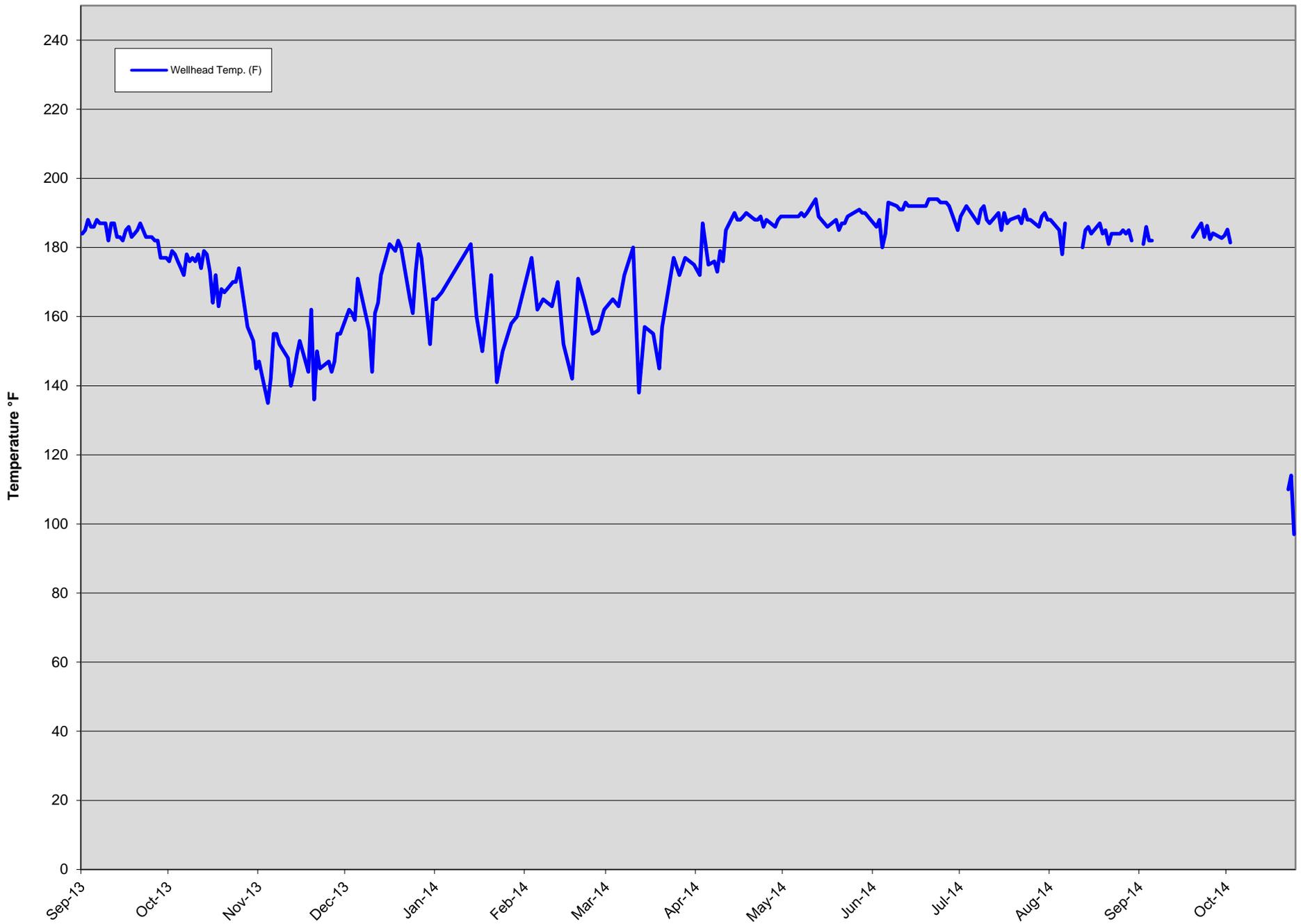
# GIW-8 Wellhead Temperatures



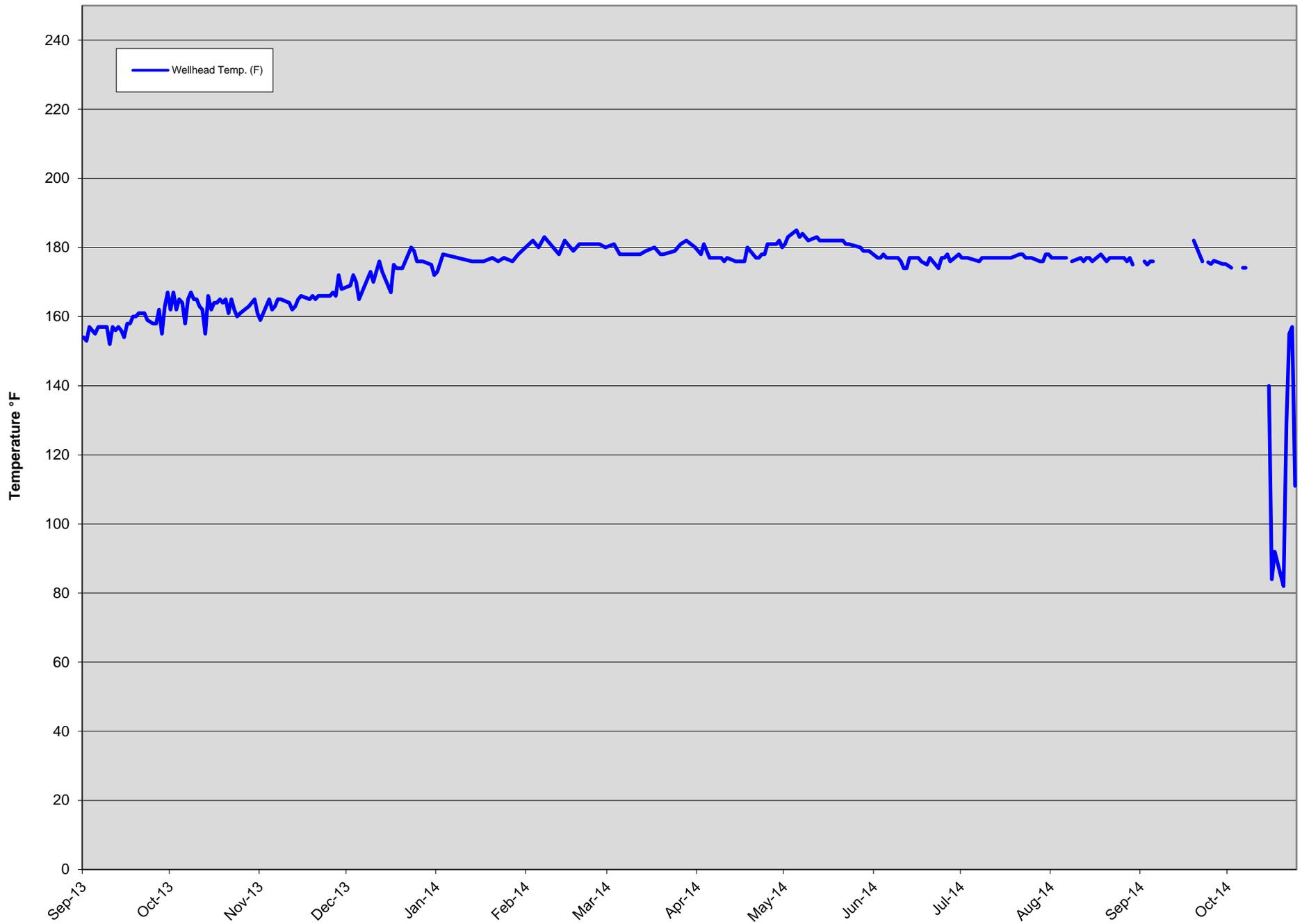
# GIW-9 Wellhead Temperatures



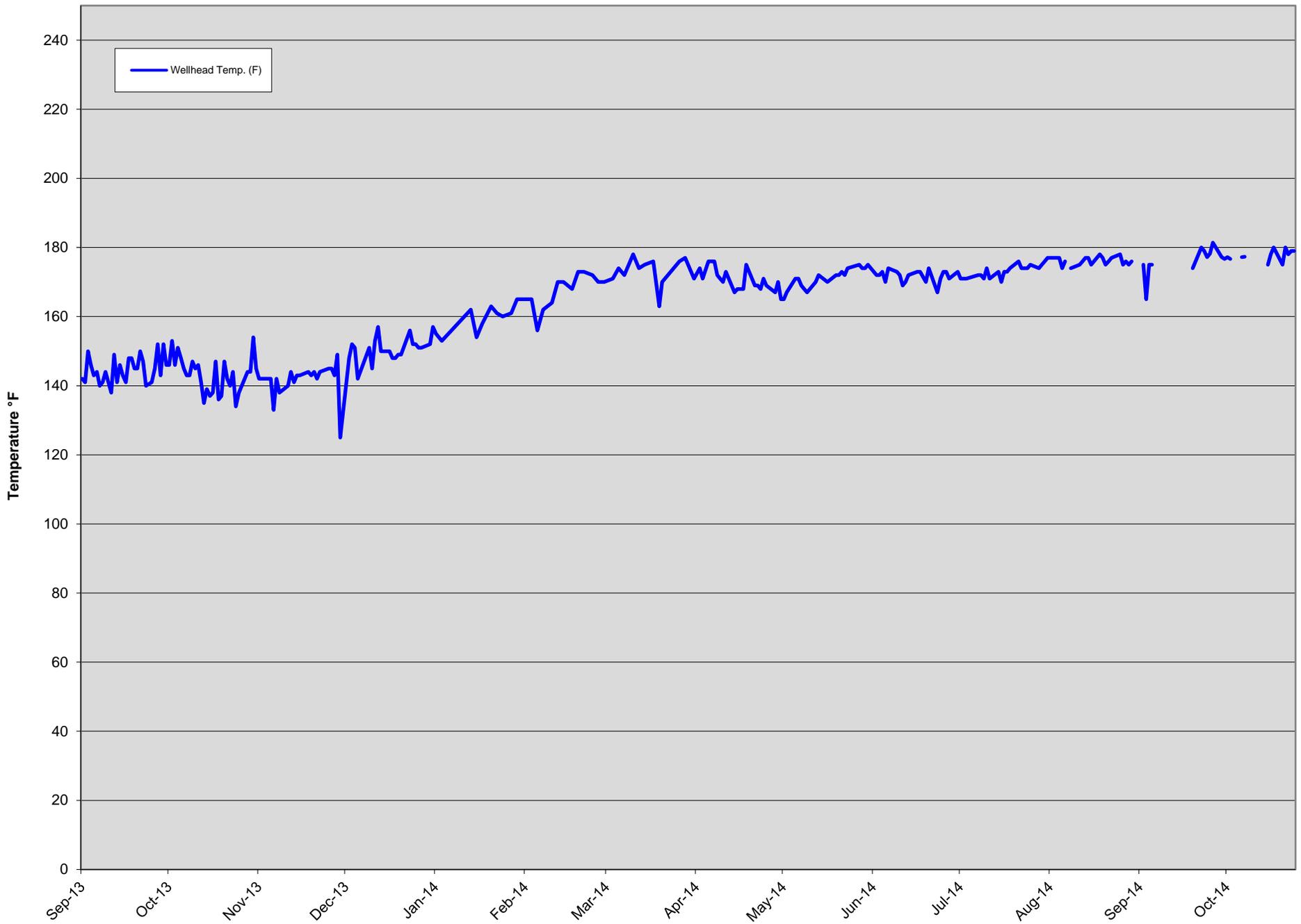
# GIW-10 Wellhead Temperatures



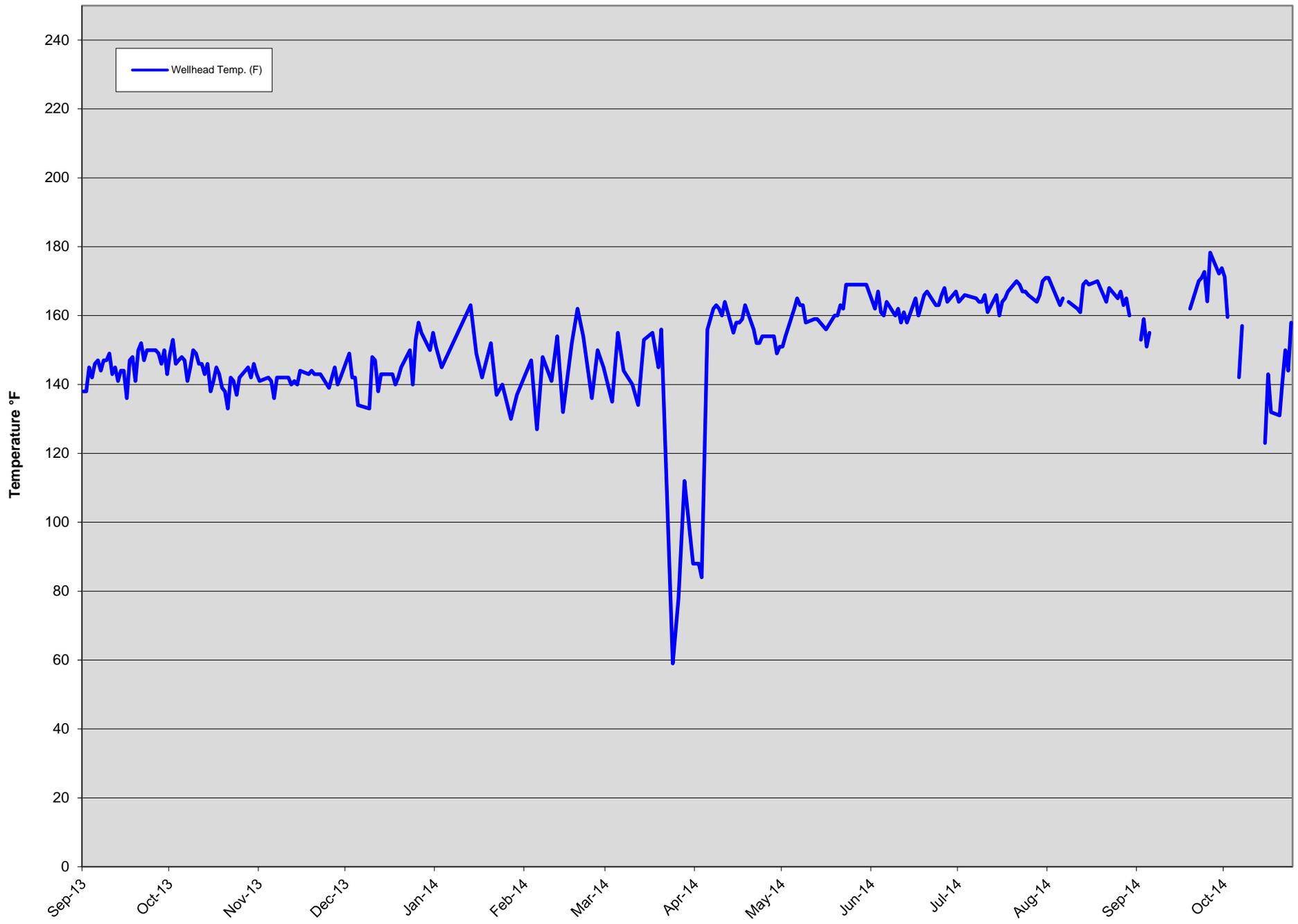
# GIW-11 Wellhead Temperatures



# GIW-12 Wellhead Temperatures



# GIW-13 Wellhead Temperatures



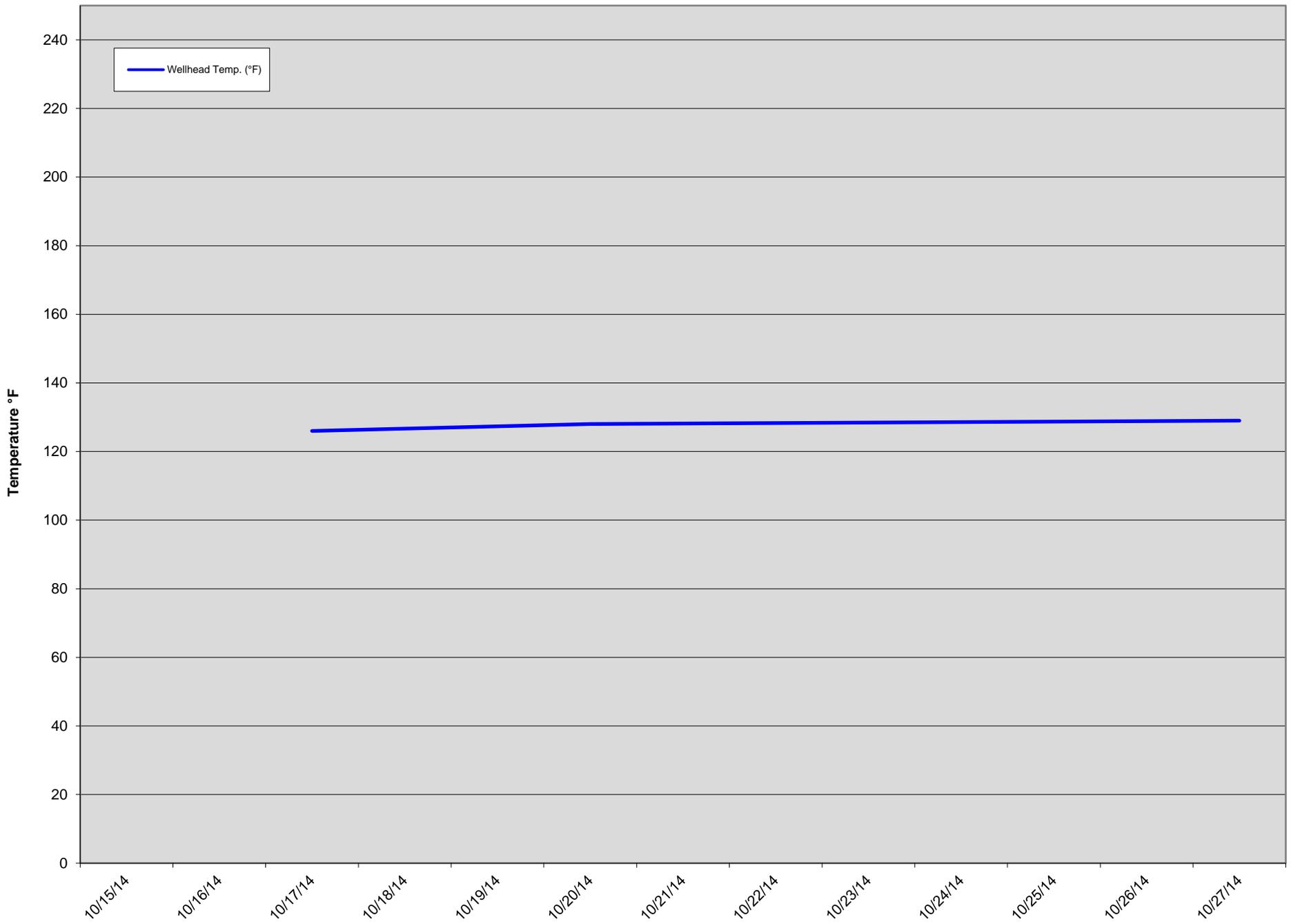
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**ATTACHMENT D**

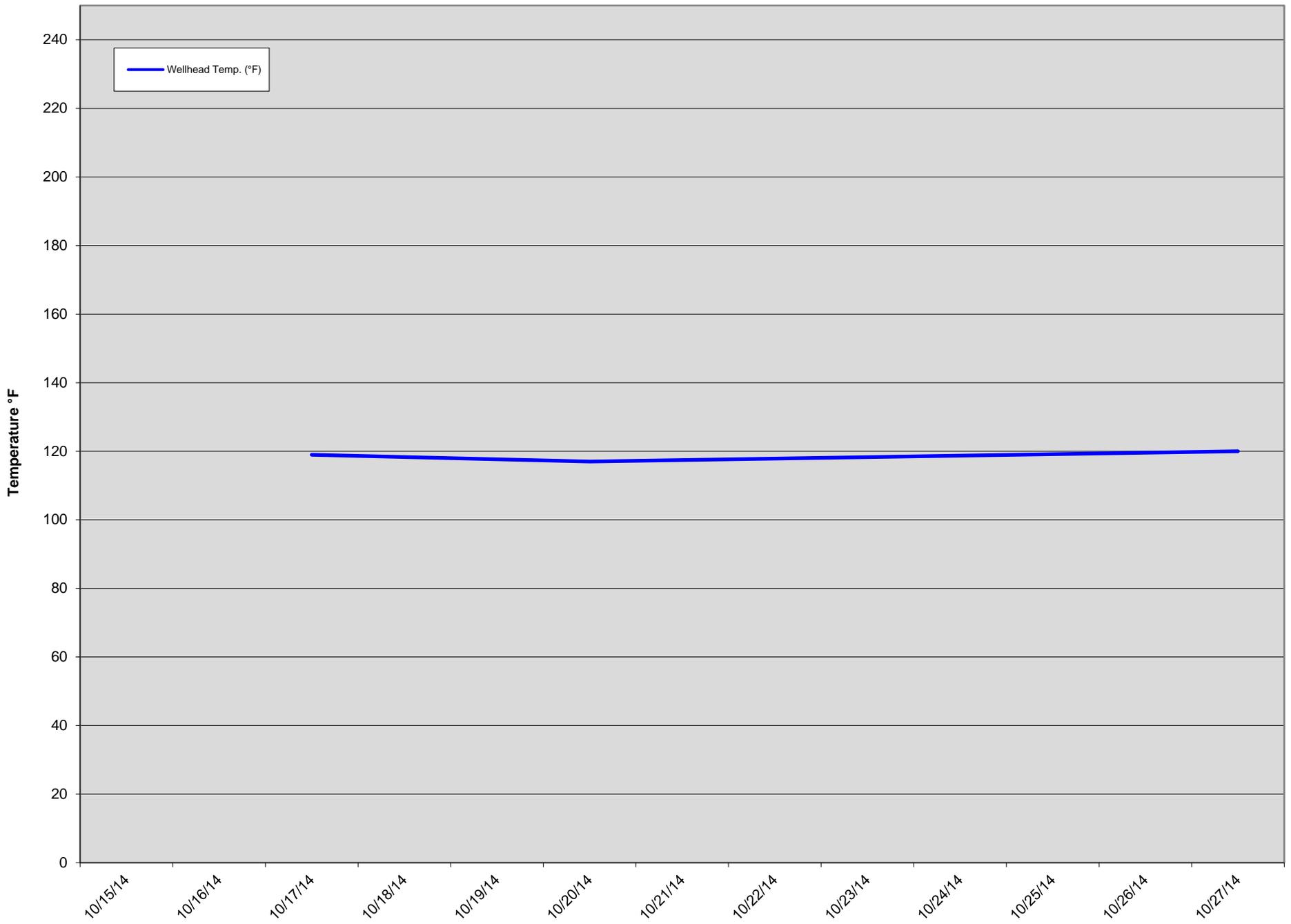
**NECK-AREA GAS EXTRACTION WELLHEAD TEMPERATURE GRAPHS**

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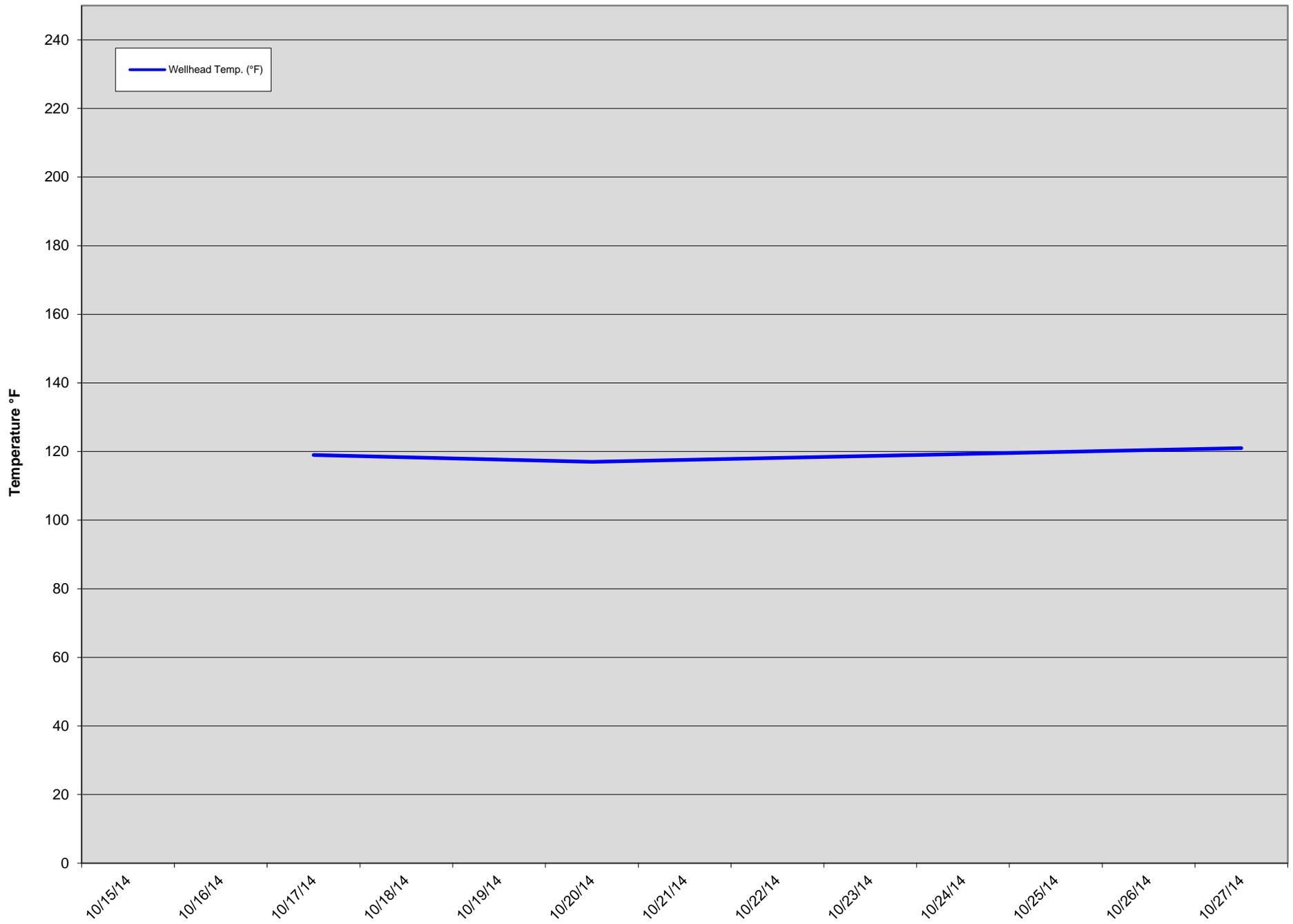
# GEW-55 Wellhead Temperatures



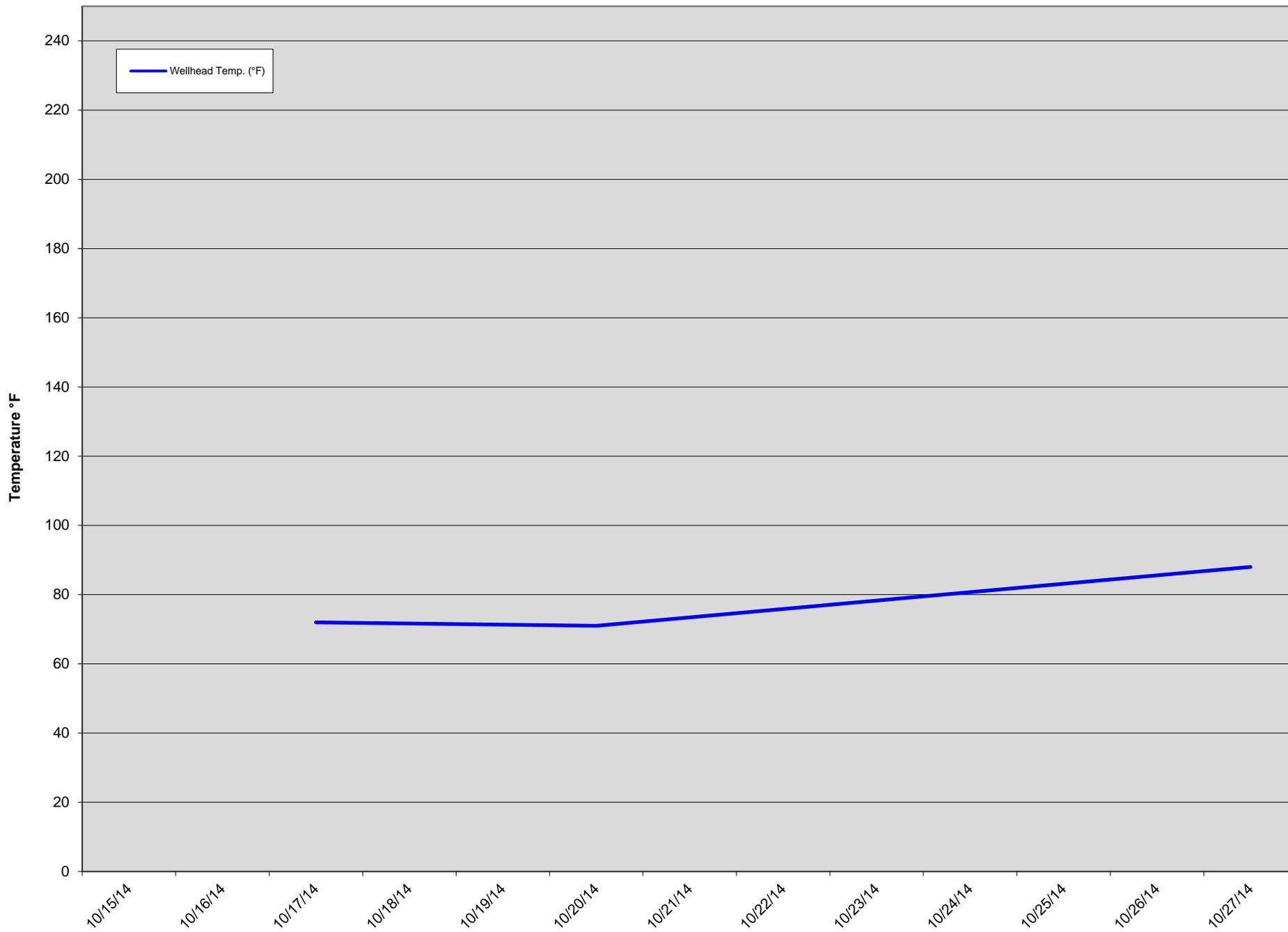
# GEW-08 Wellhead Temperatures



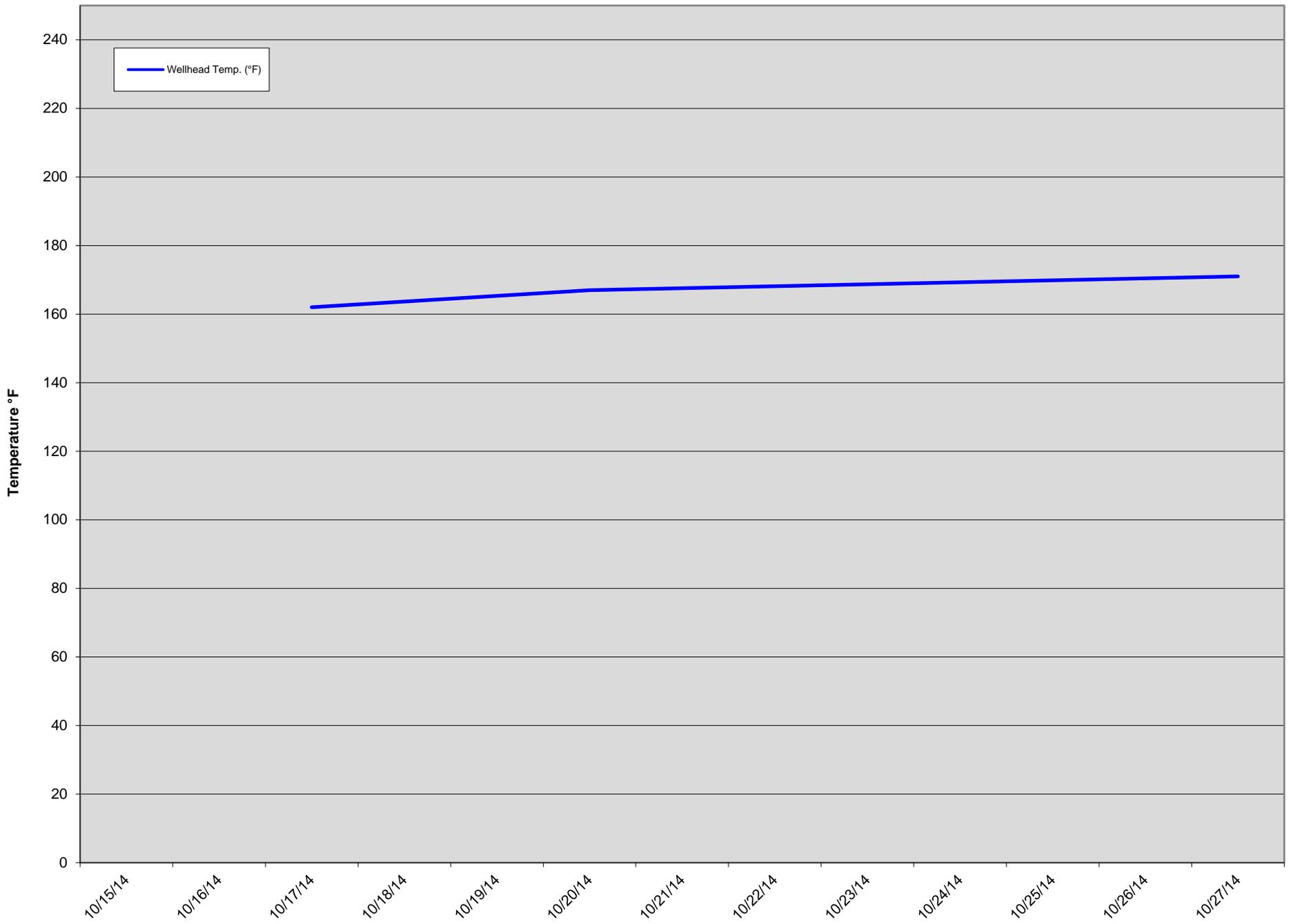
# GEW-09 Wellhead Temperatures



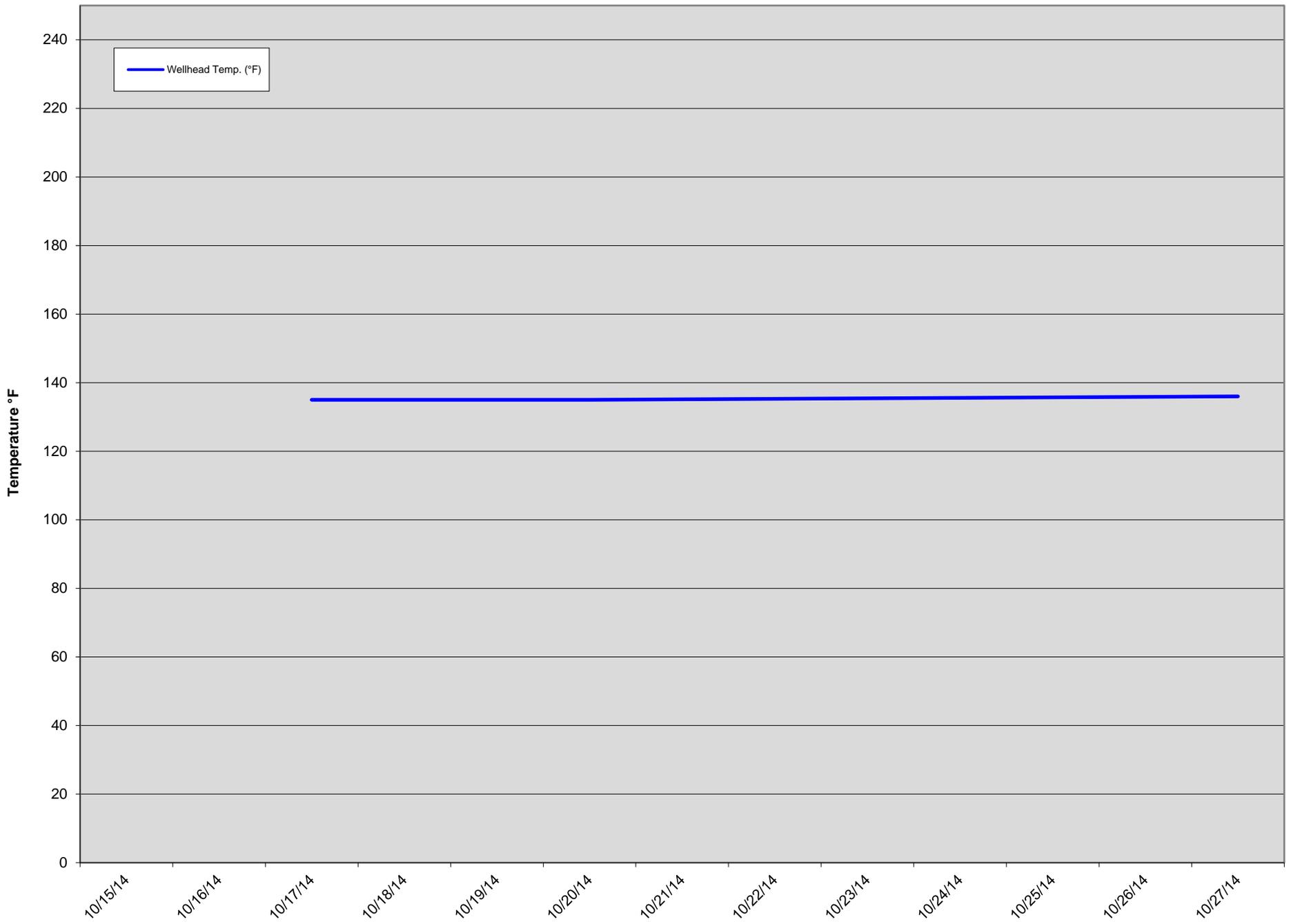
# GEW-10 Wellhead Temperatures



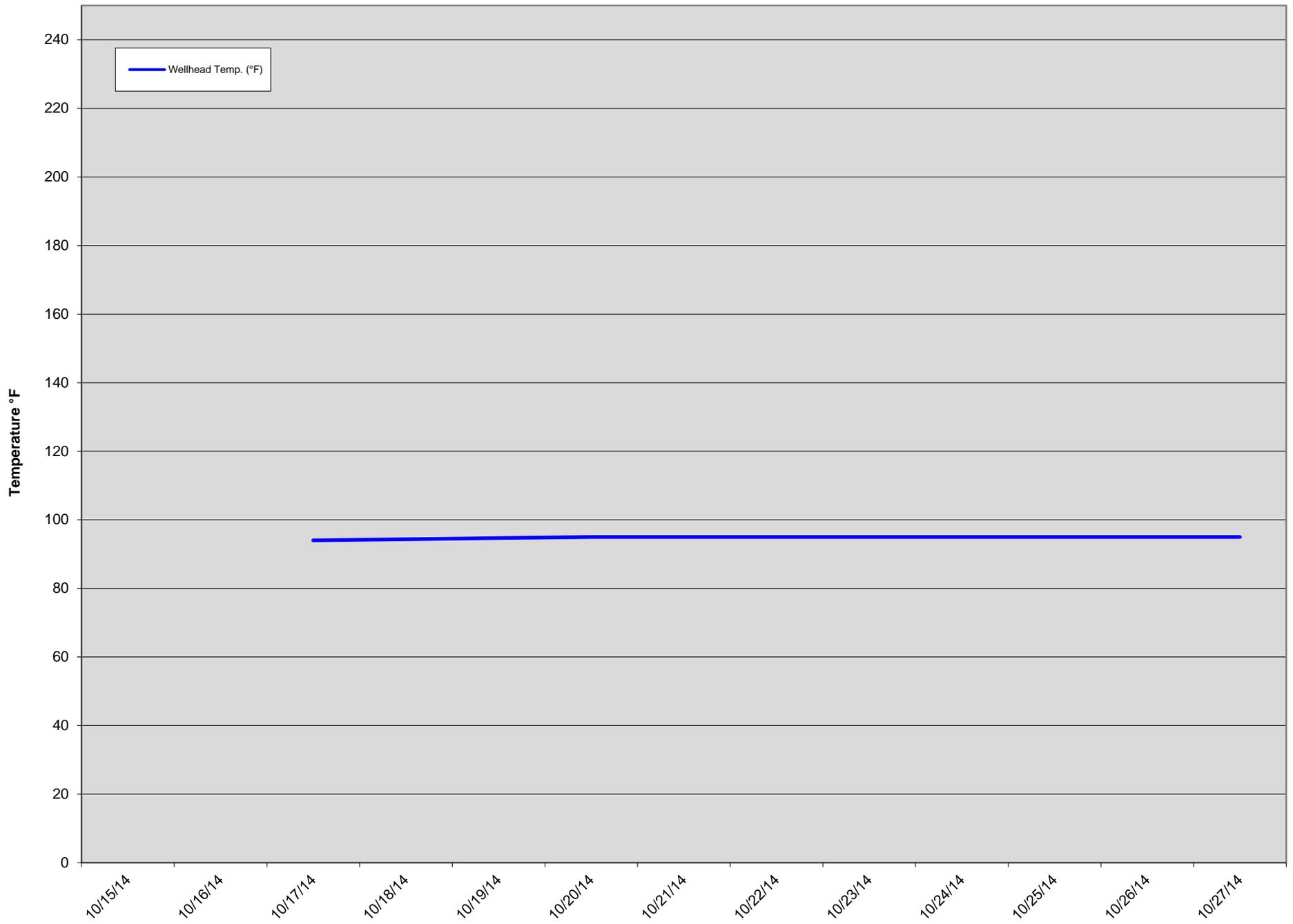
# GEW-38 Wellhead Temperatures



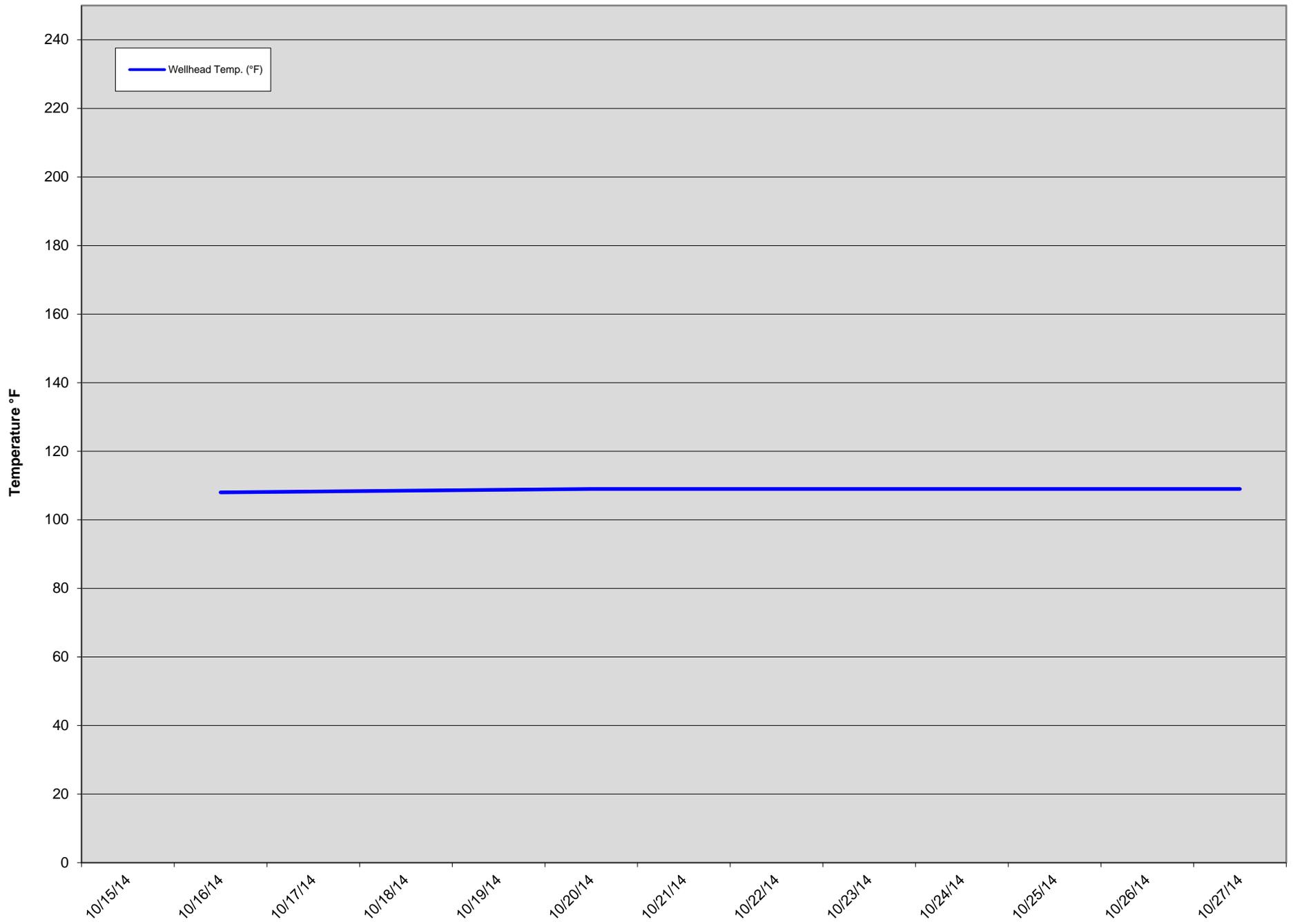
# GEW-39 Wellhead Temperatures



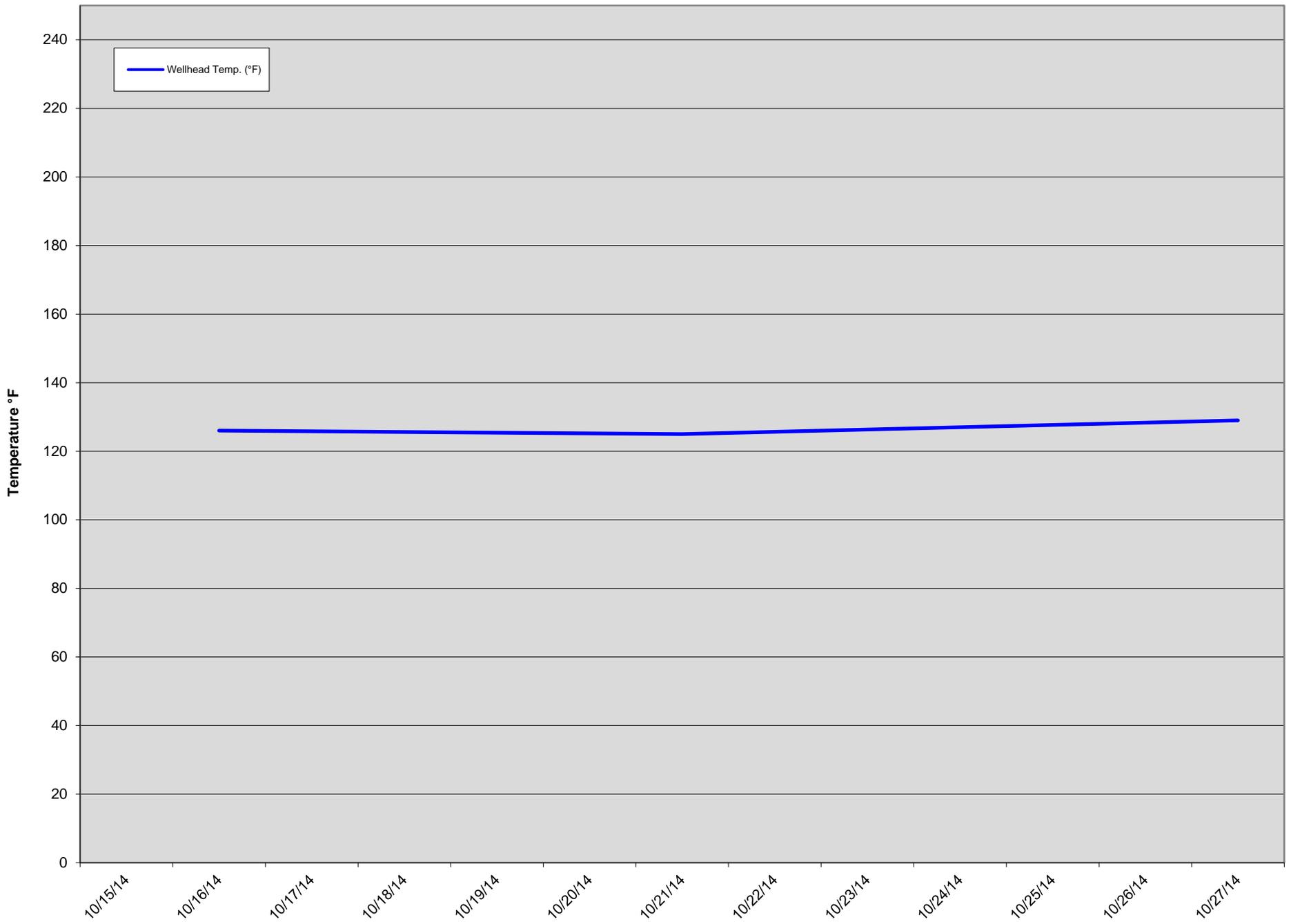
# GEW-40 Wellhead Temperatures



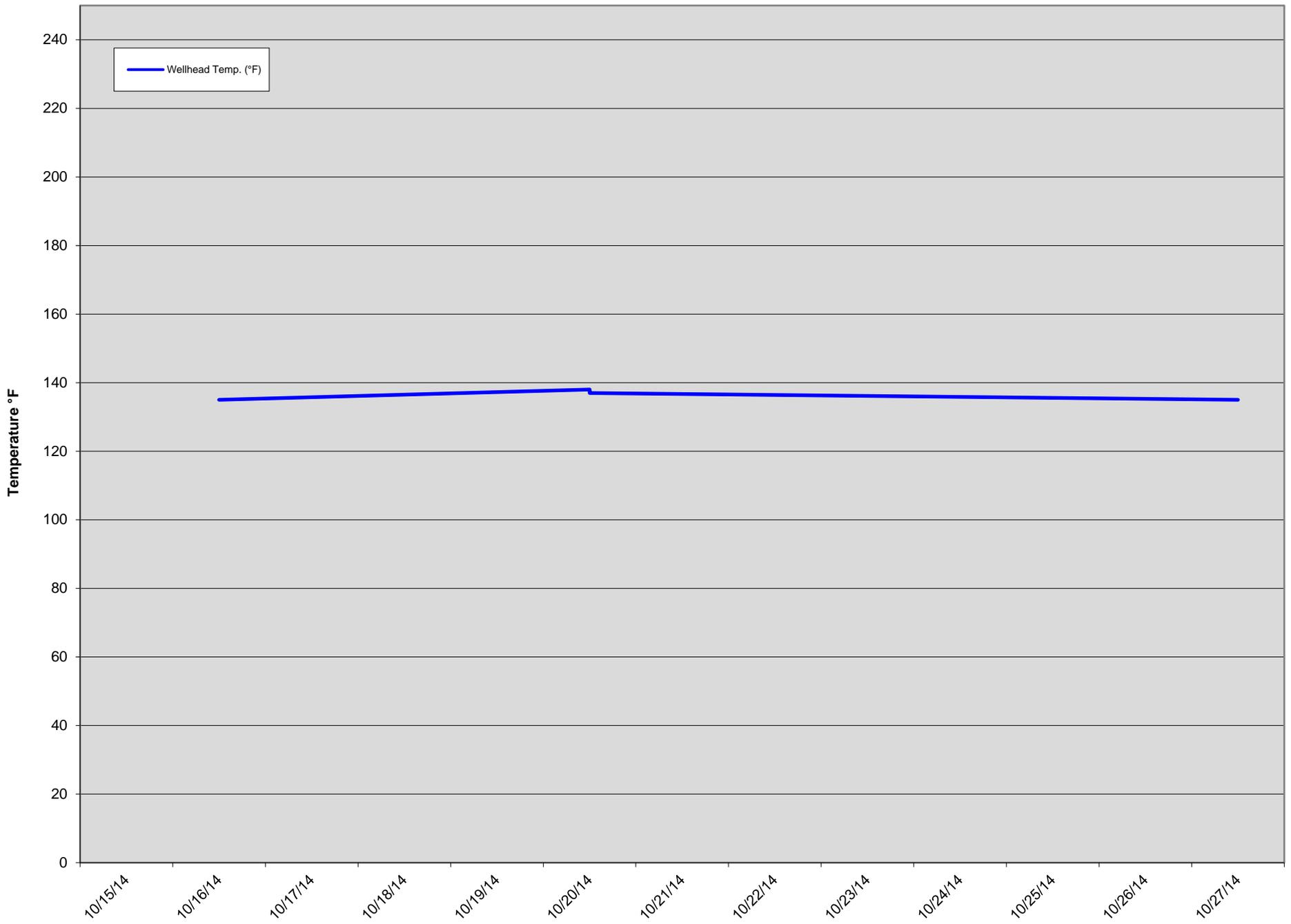
# GEW-41R Wellhead Temperatures



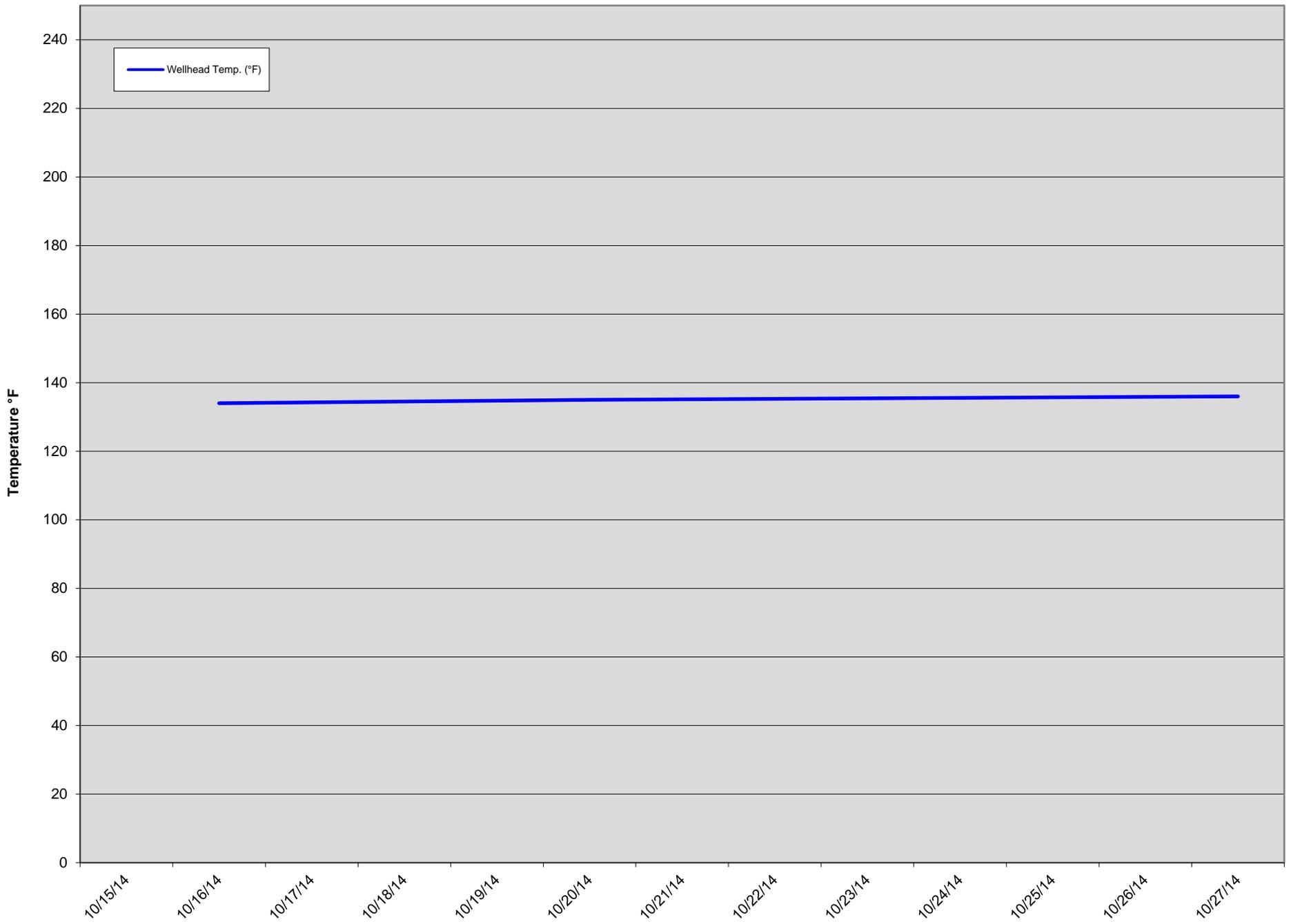
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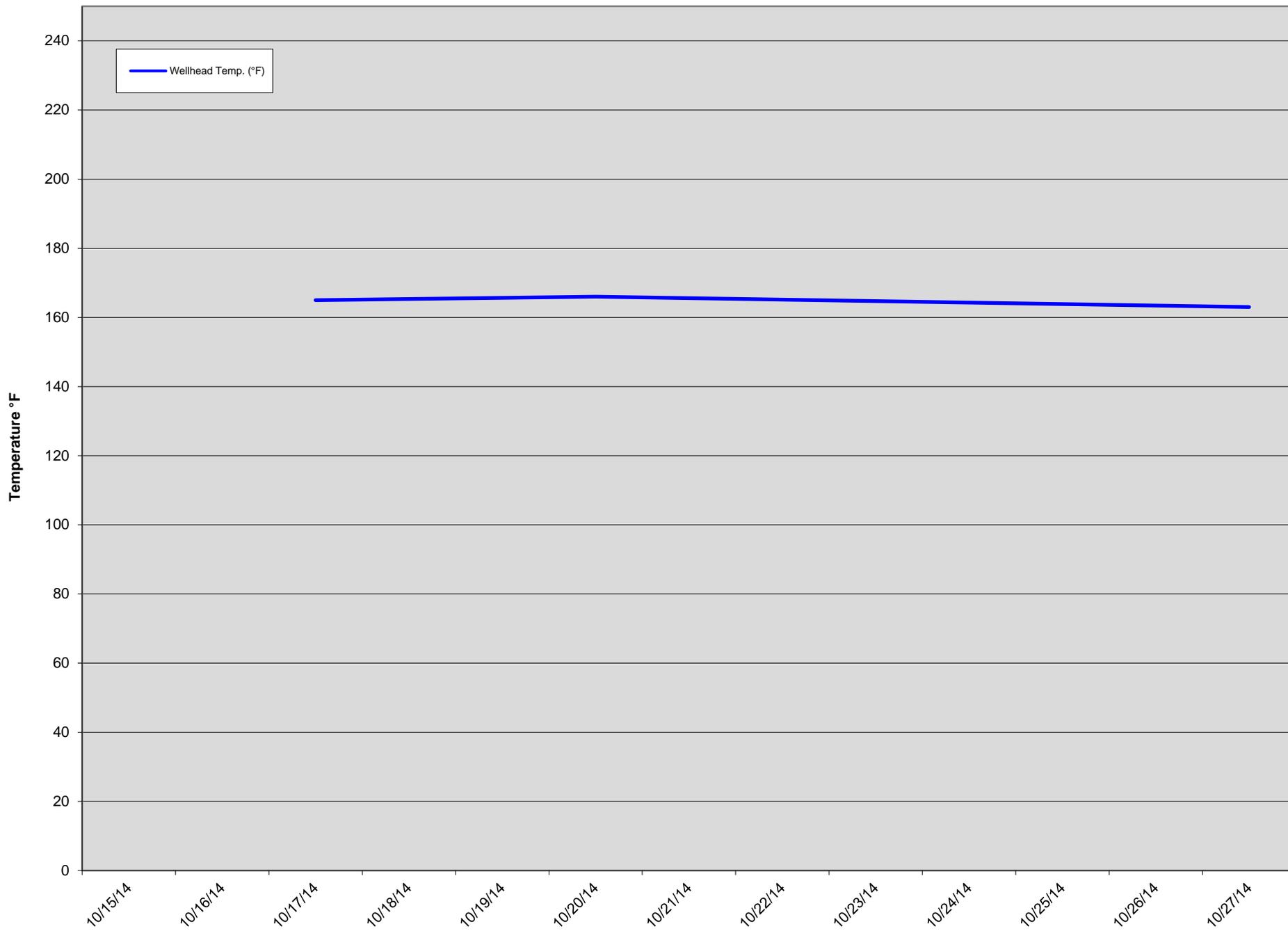
# GEW-53 Wellhead Temperatures



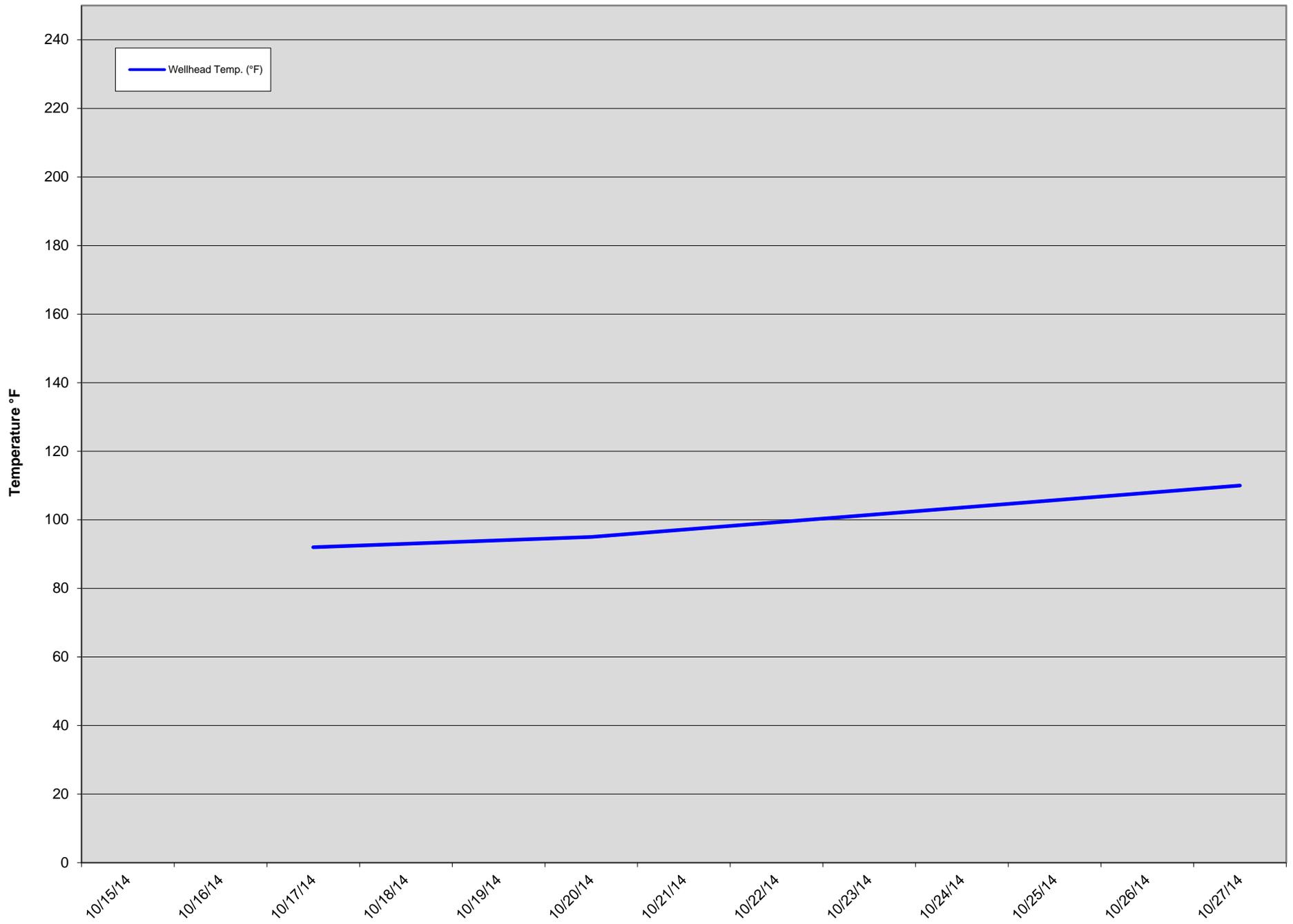
# GEW-54 Wellhead Temperatures



# GEW-56R Wellhead Temperatures



# GEW-109 Wellhead Temperatures



# GEW-110 Wellhead Temperatures

